Appendix
Jordan Wood – c1327201

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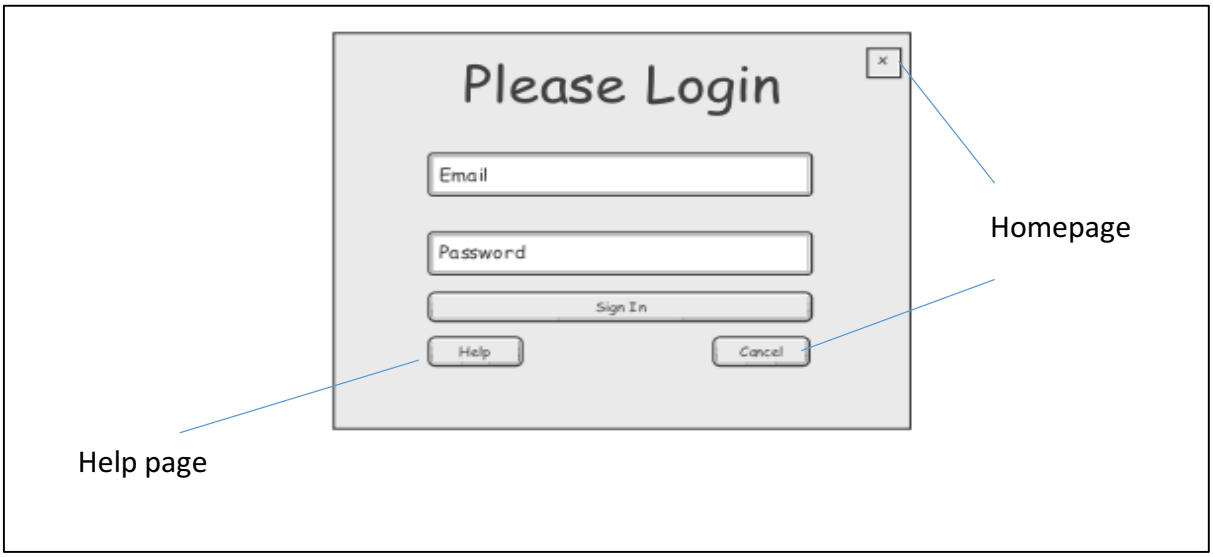
System Design

This section of the appendix includes the full initial design of the project, involving a detailed design of website and database infrastructure.

Homepage / Login

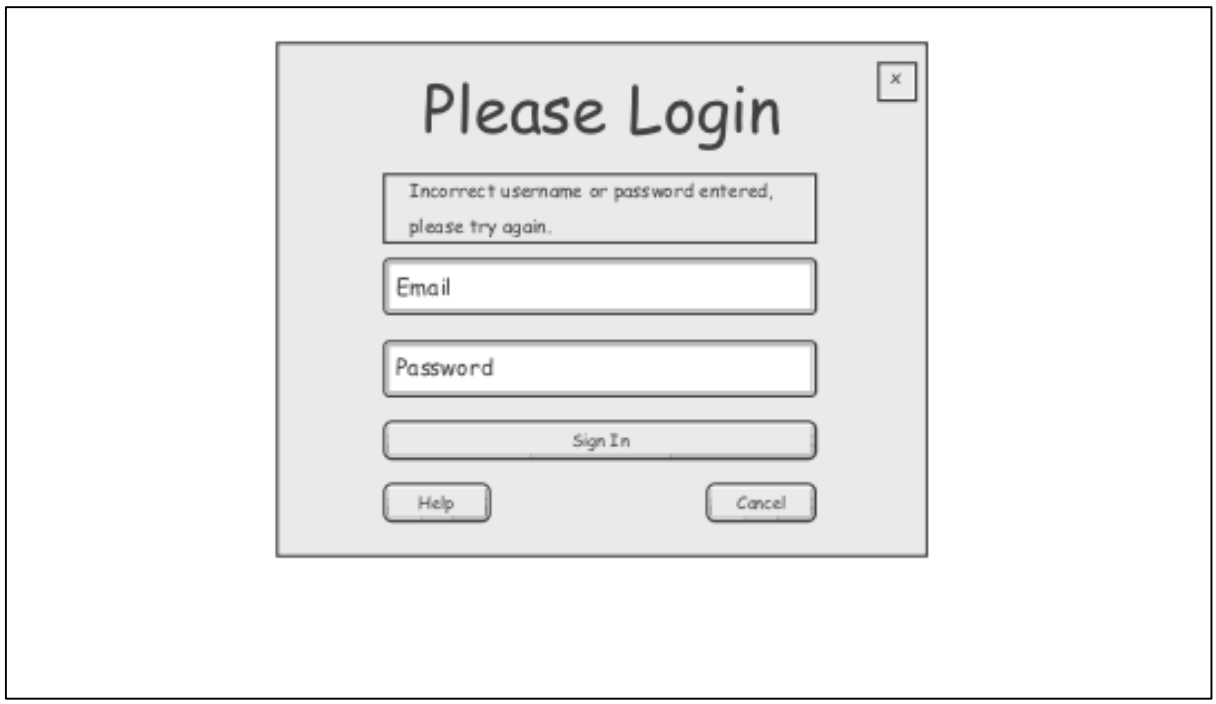
When user's firsts access the website they will be presented with a homepage. This page provides an overview of what the system involves and allows registered users to login via the navigation bar by entering a valid email address and password. Users may also navigate to a login page by selecting "My Account" or "View More" buttons.

Homepage

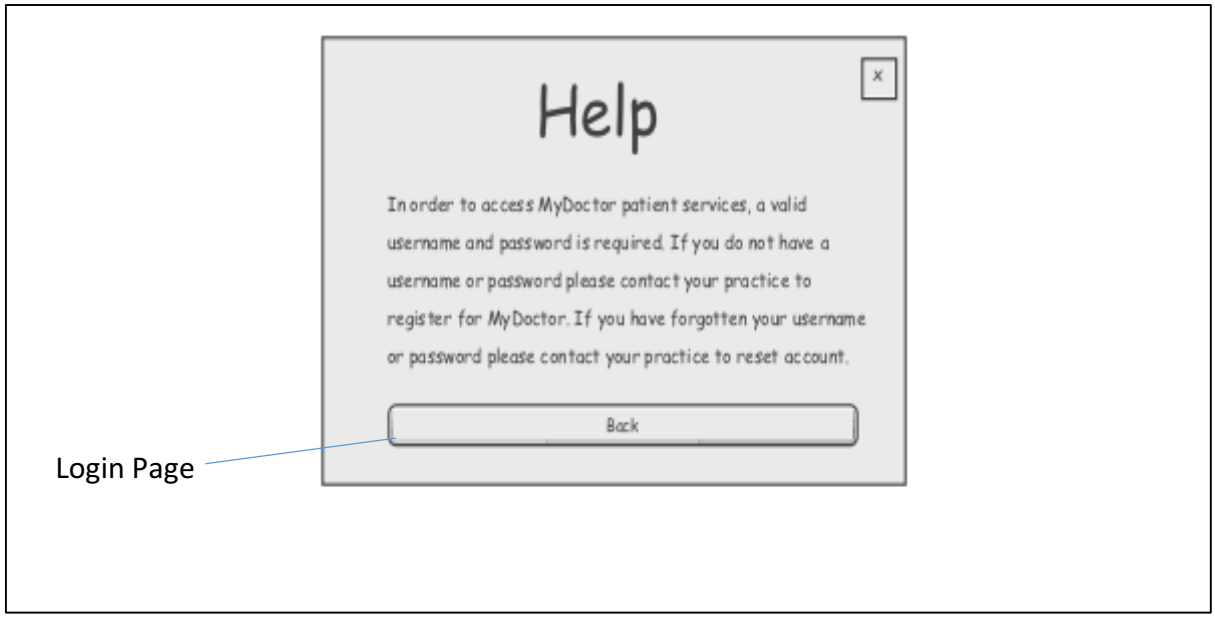


Login

If the email address and password entered do not match the database credentials, an error message will be displayed informing the user and prompting them to please try again.



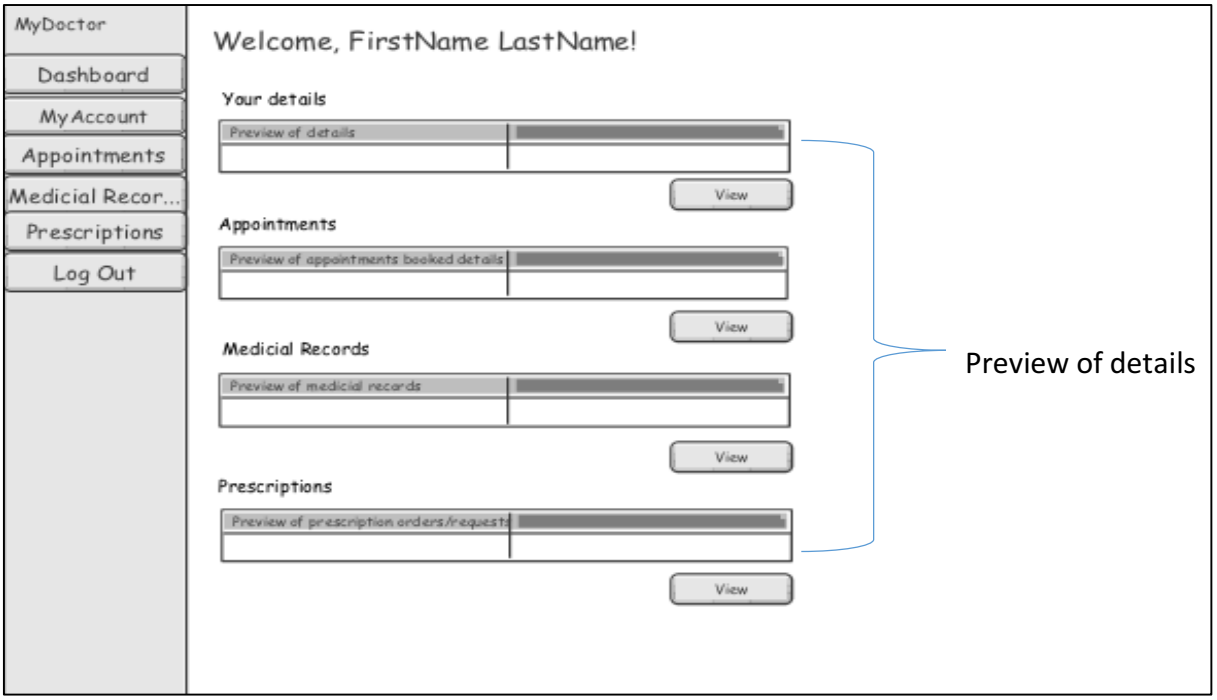
Incorrect details



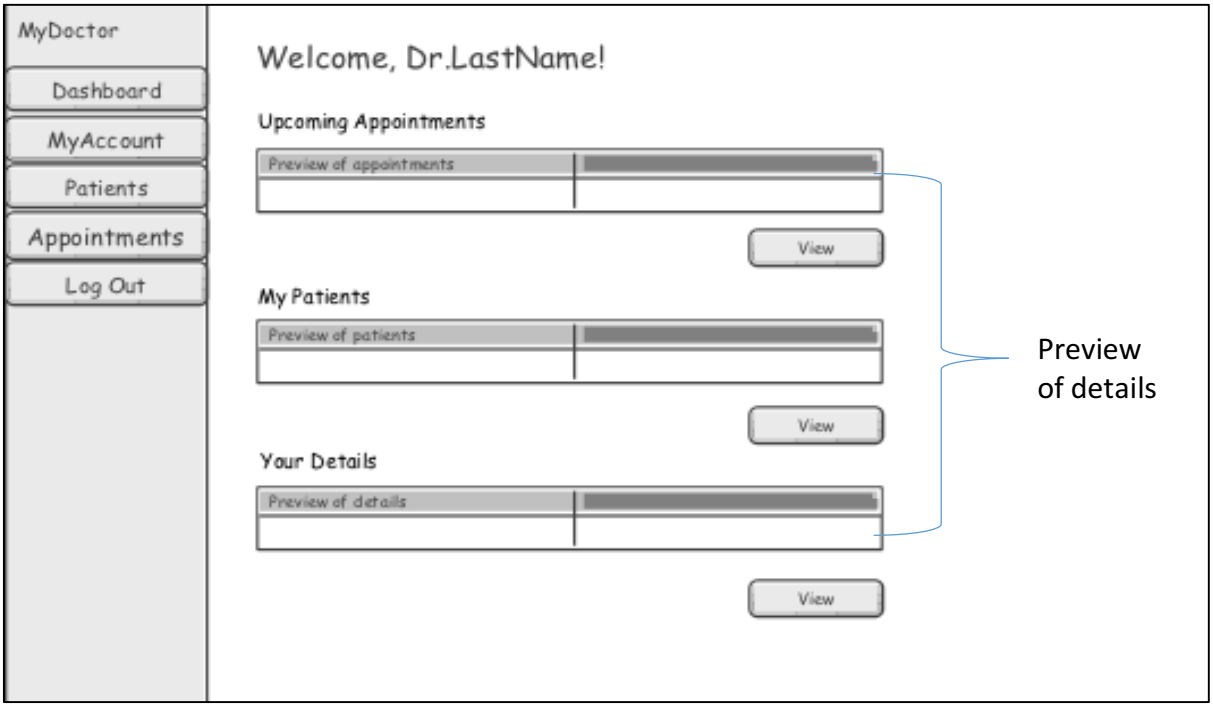
Help

Dashboard

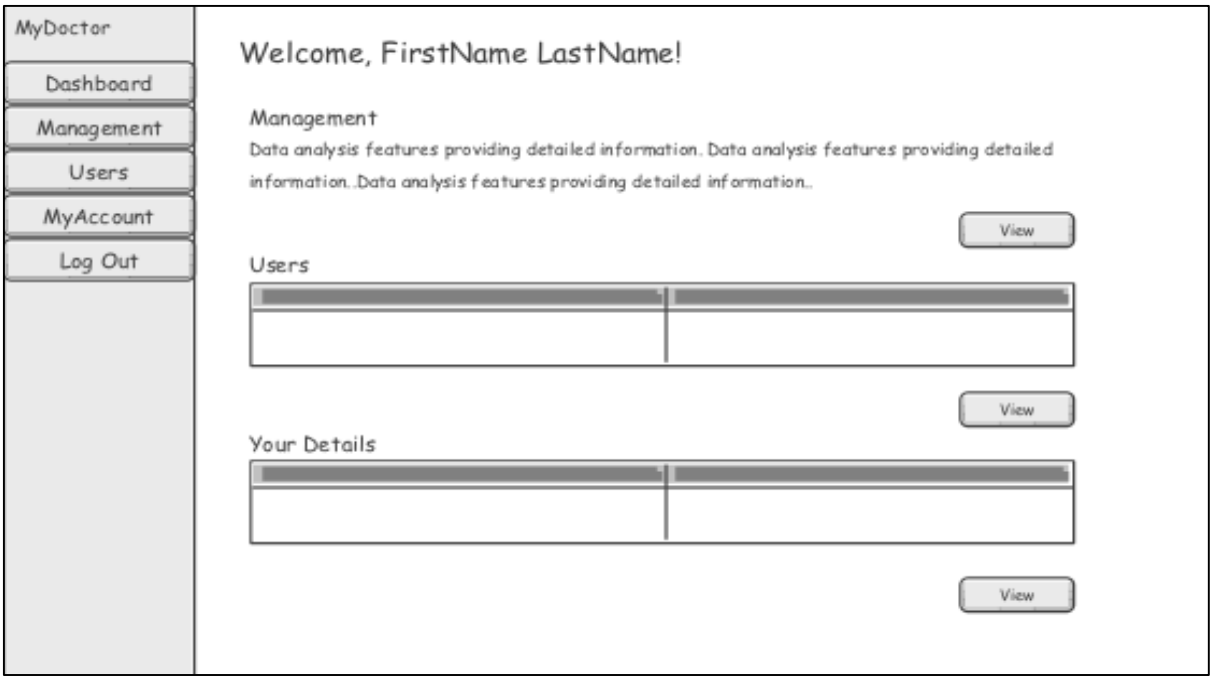
The proposed system will have three types of users; Patient, Doctor and Admin. Each user type will require access to the system for varied features, therefore, each user type is provided with a different user dashboard.



Patient Dashboard



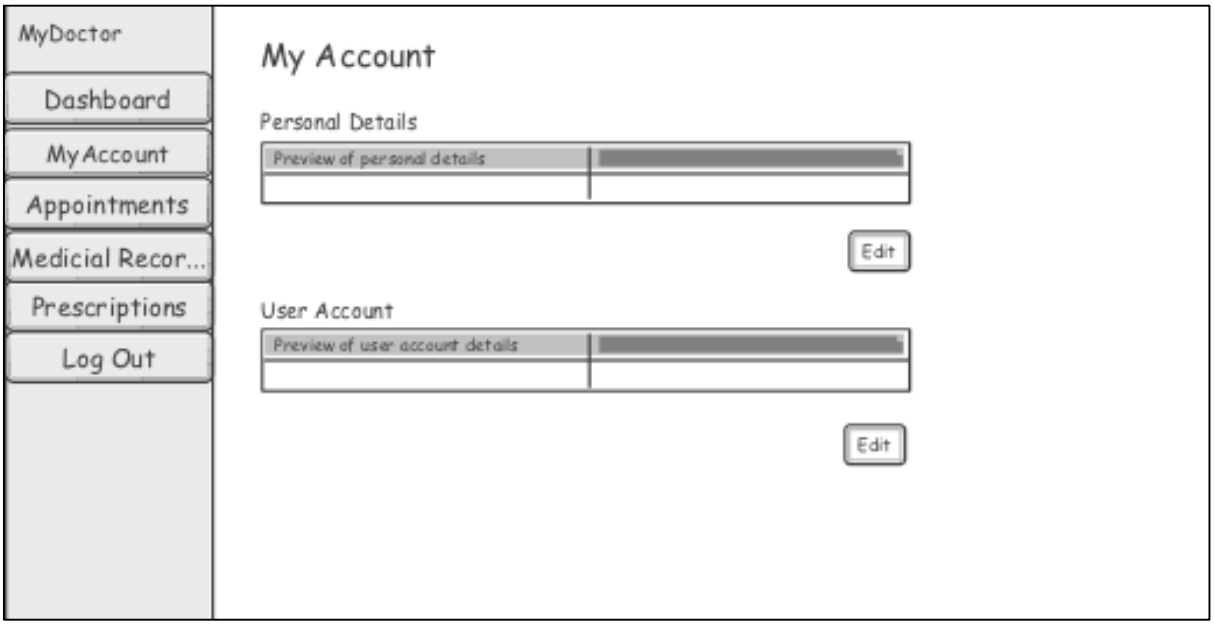
Doctor Dashboard



Admin Dashboard

My Account

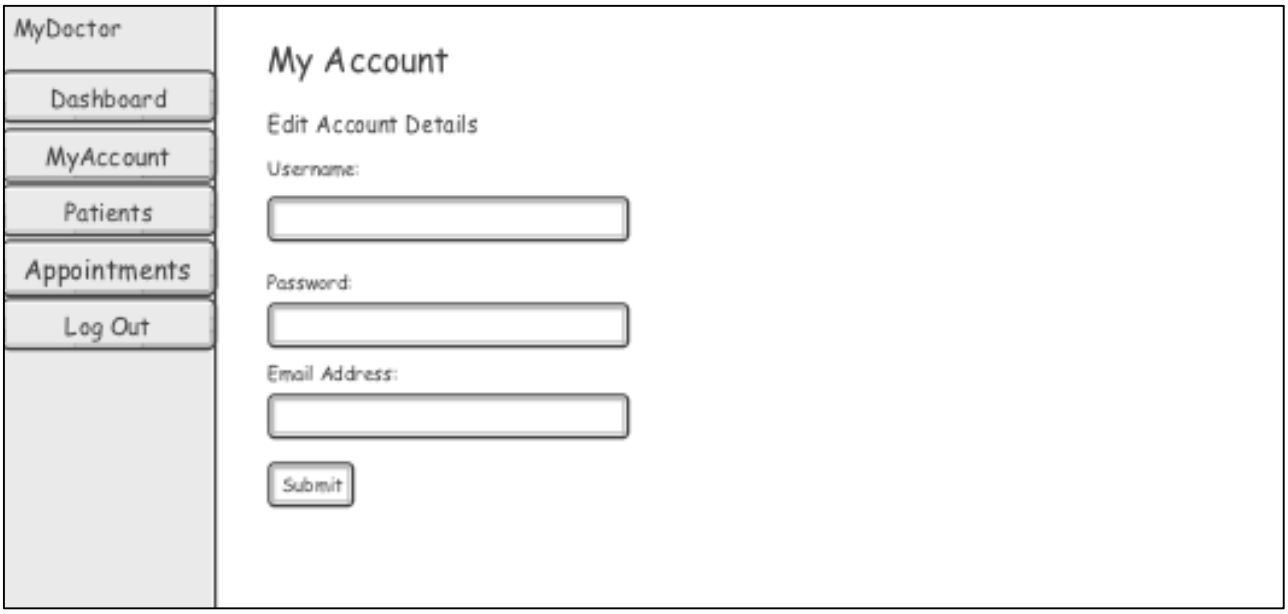
Every user type has a “My Account” feature; this allows users to update both their personal and user account information.



My Account (Example - Patient)

All users are first provided with a preview/navigation page, showing current personal details and user account information. Users can then select “Edit” taking them to the corresponding update pages.

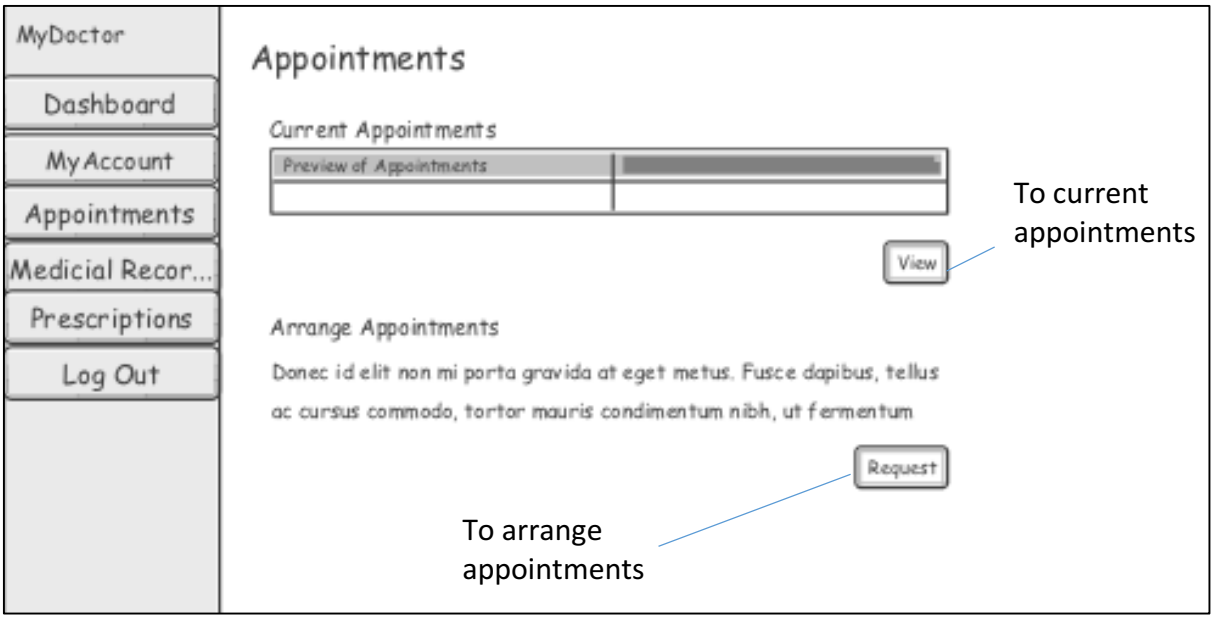
Edit Personal Details (Example – Admin)



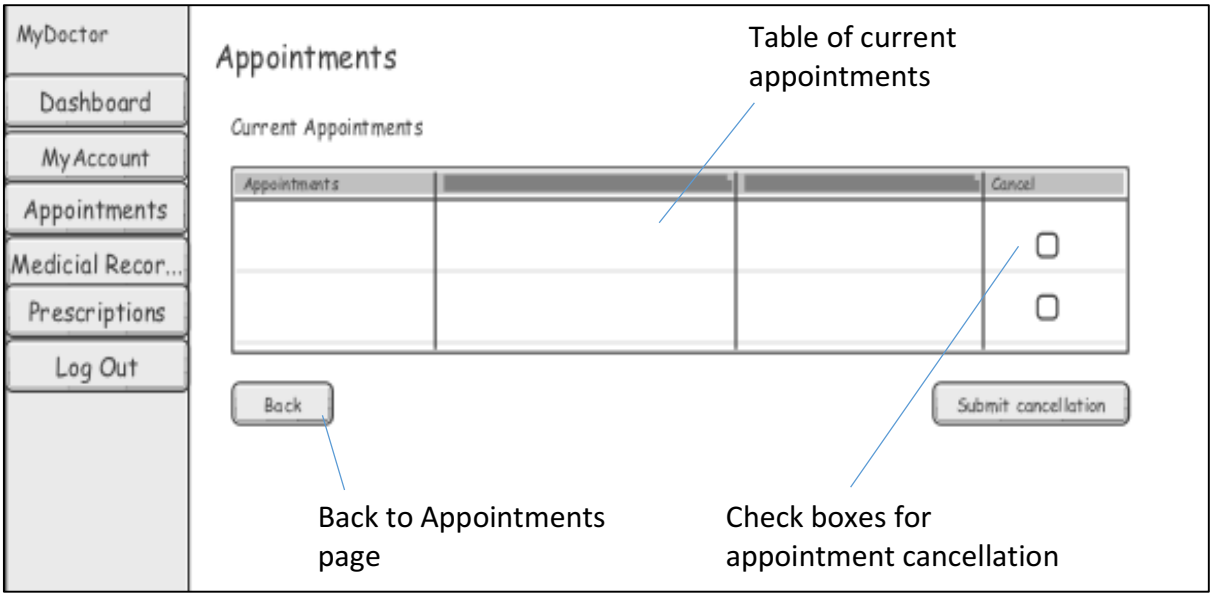
Edit Account Details (Example – Doctor)

Appointments

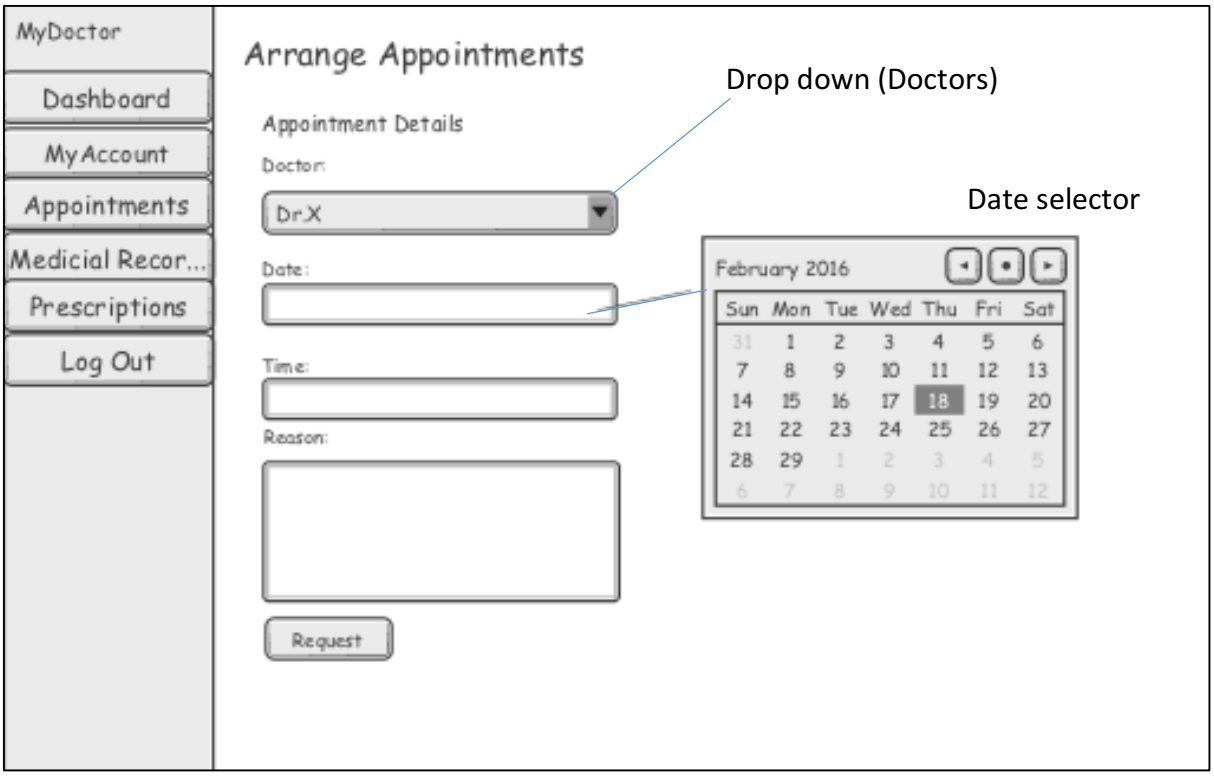
Patient and Doctor user types both include variations of an “Appointments” page. All users may view appointments that align with their user types authority, for example; Patient may view their current appointment details or request one by completing a form, whereas Doctor may view scheduled appointments with patients and provide the system with details about the occurred appointment.



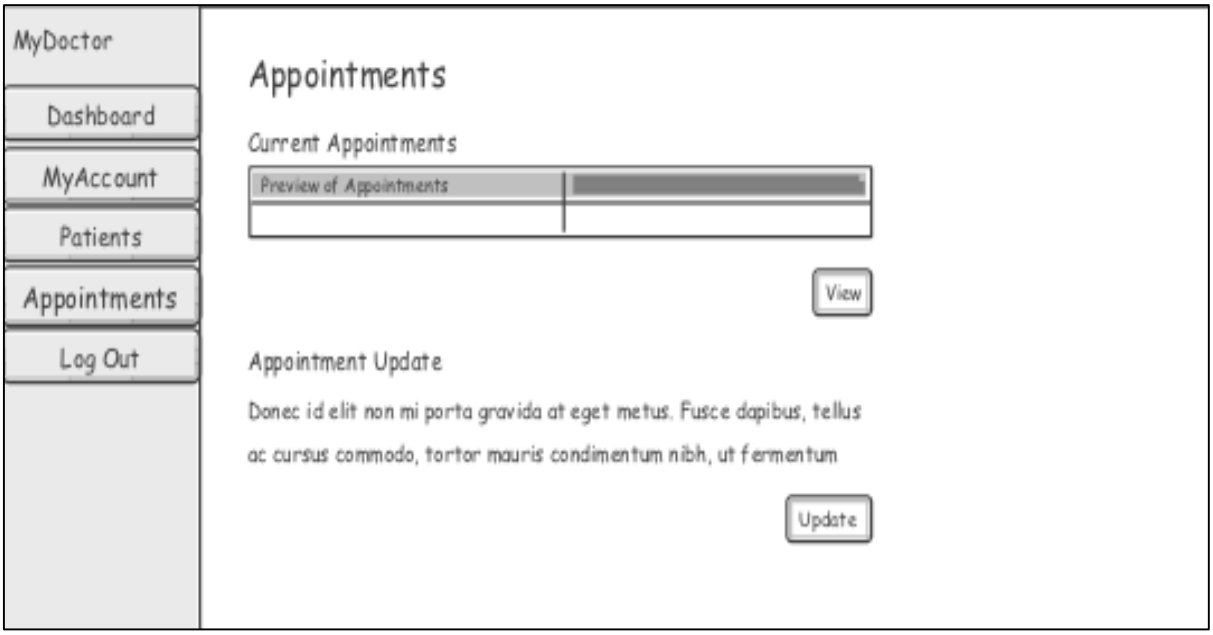
Patient Appointments



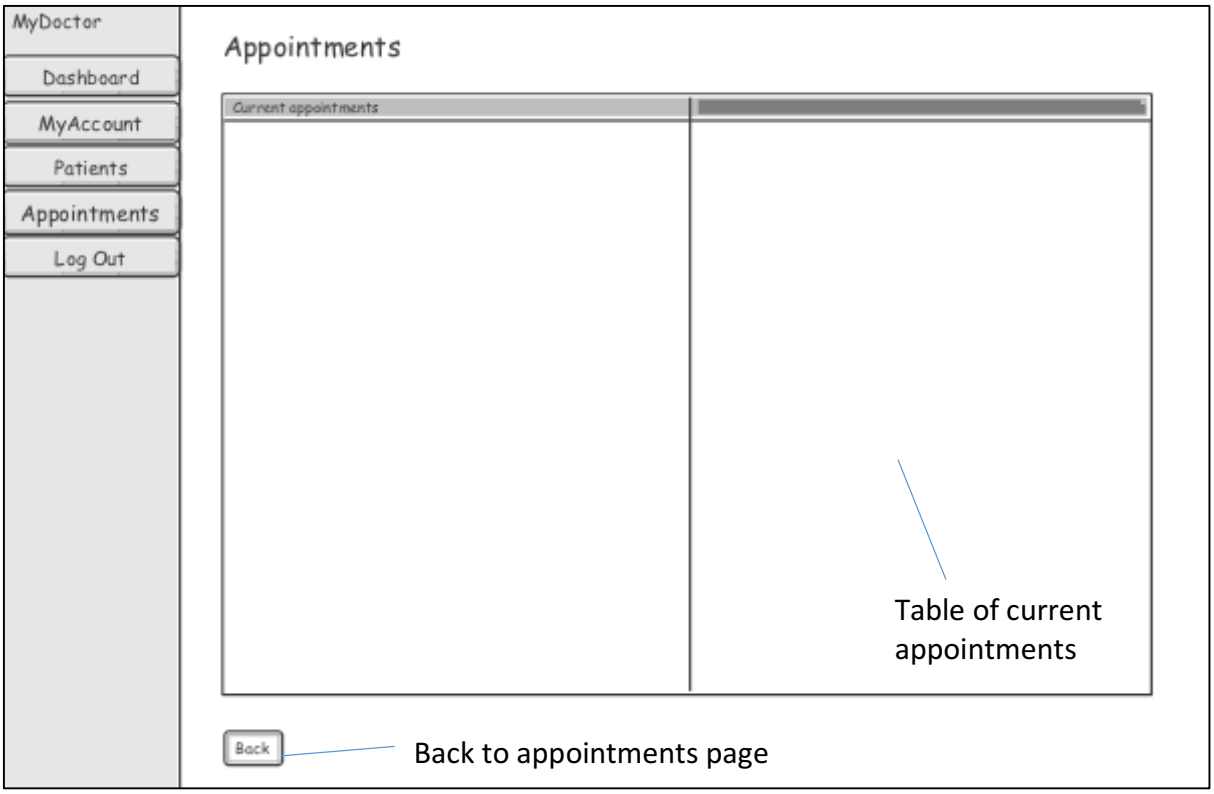
Patient Current Appointments



Patient Arrange Appointments



Doctors Appointments

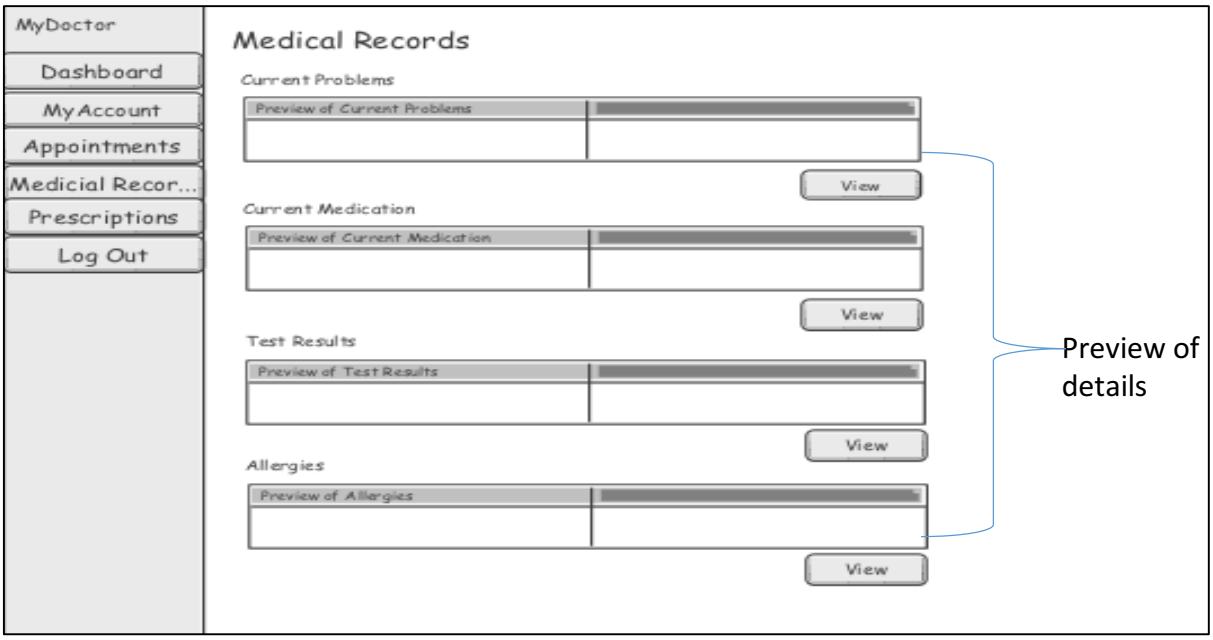


Doctors Current Appointments

Doctors Appointment Update

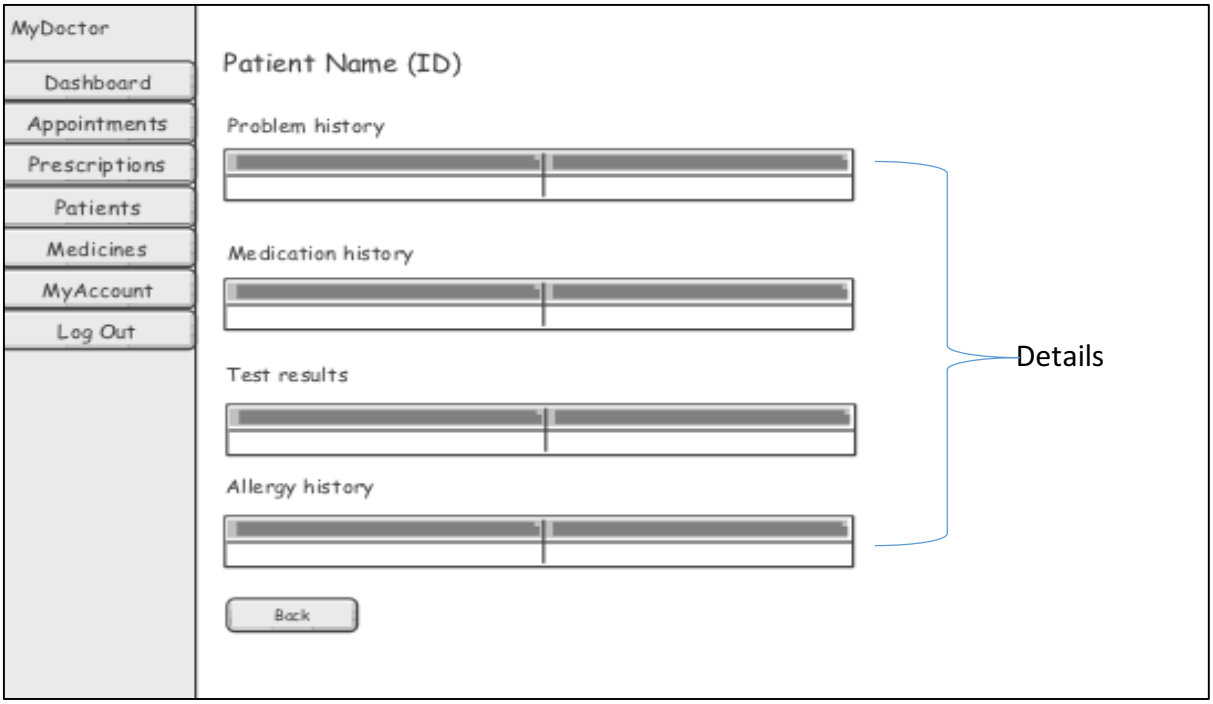
Medical Records

Patient user type will be provided with a “Medical Records” page including information about their medical history, for example; current problems, medication, test results and allergies. The page will provide a preview of this information and navigation to further information details.

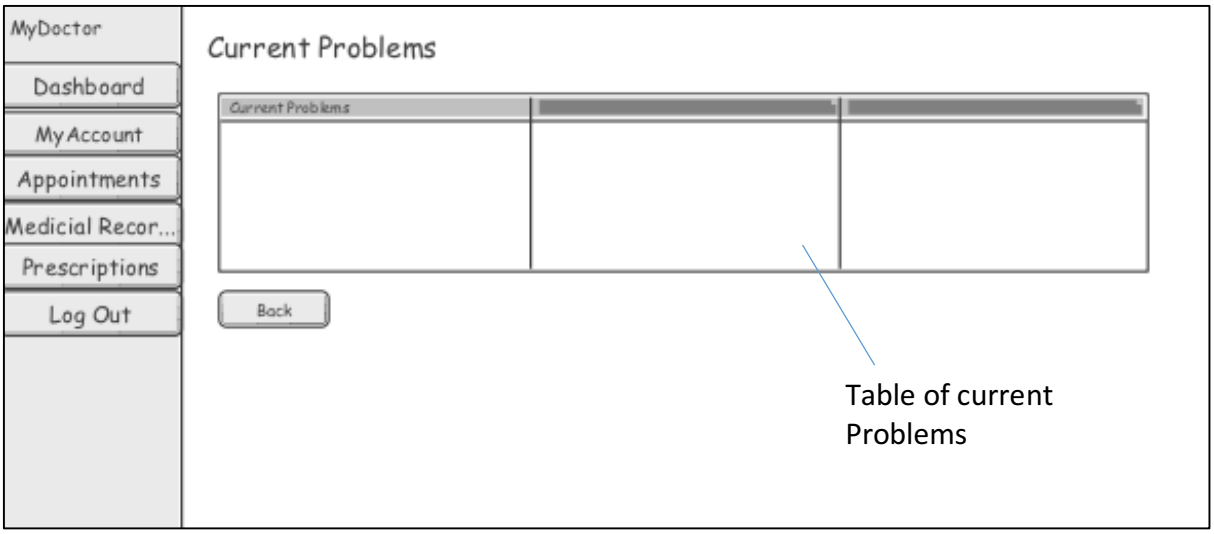


Medical Records

Doctor user type can view individual patient medical records.



Individual Patient Medical Record Look Up

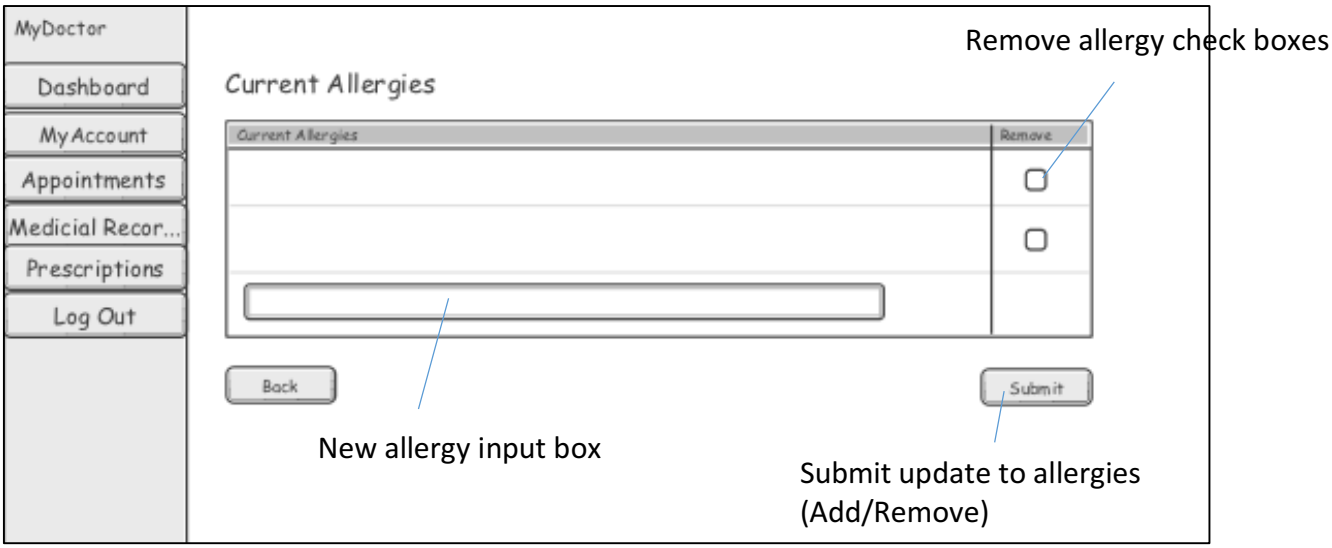


Current Problems

Each page accessed from “Medical Records” (Current Problems, Current Medication, Test Results) incorporates the same layout as the above, however, includes a table containing all related records for that individual.

Allergies

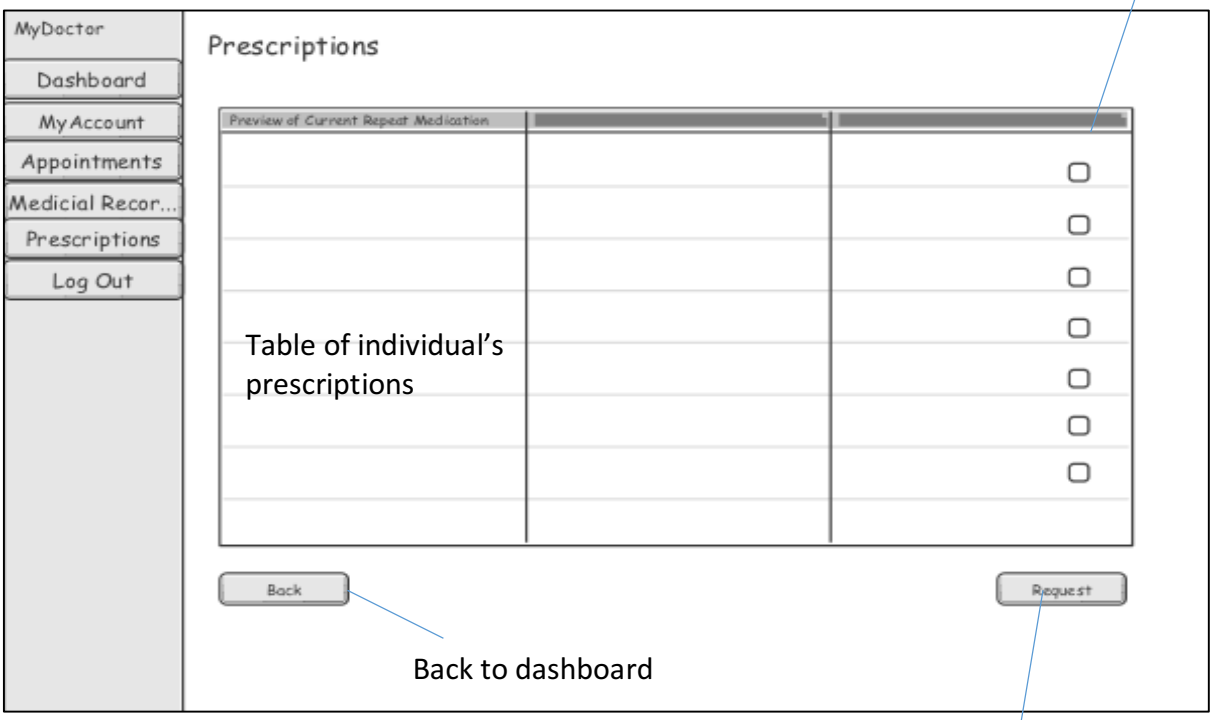
Navigation to the “Allergies” page from Medical Records, will allow patient users to view current allergies and update allergies if required e.g. add/remove.



Allergies

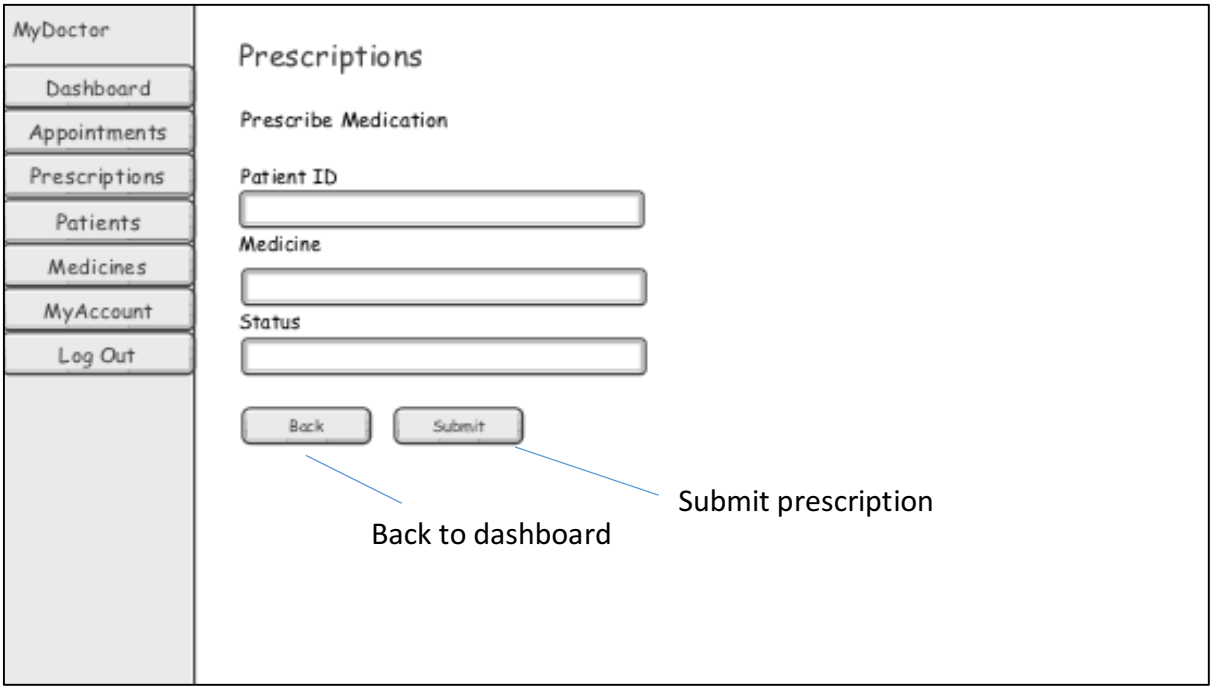
Prescriptions

Patient user type may view their current prescriptions and request repeat of prescription.



Prescriptions

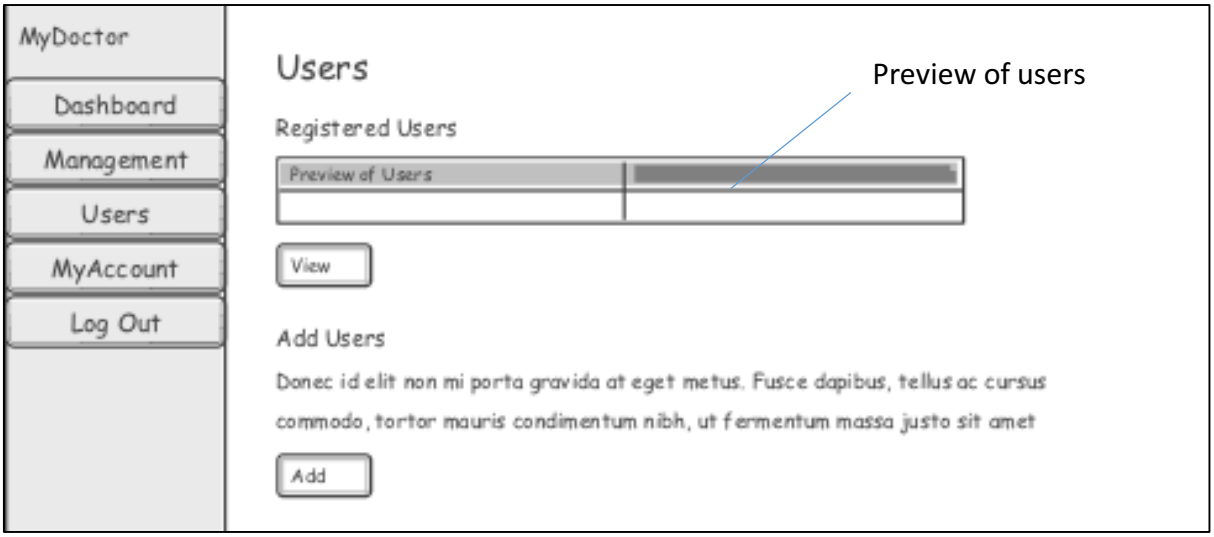
Doctor users can prescribe medication to patients, by completing input form.



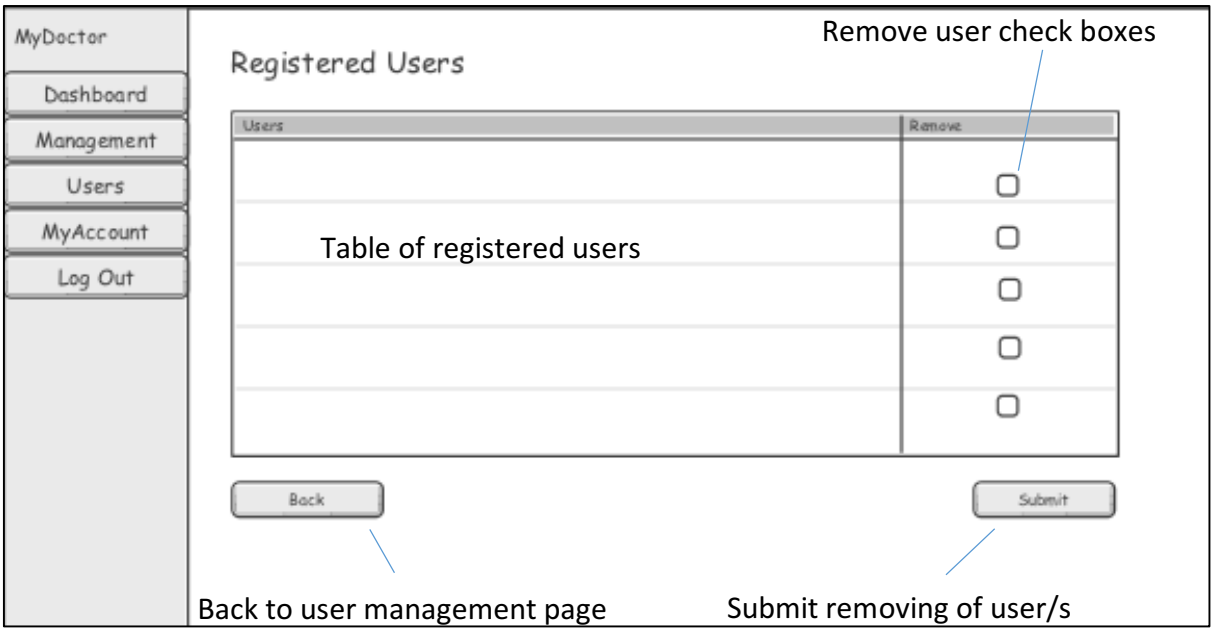
Prescribe Medication

Users Management

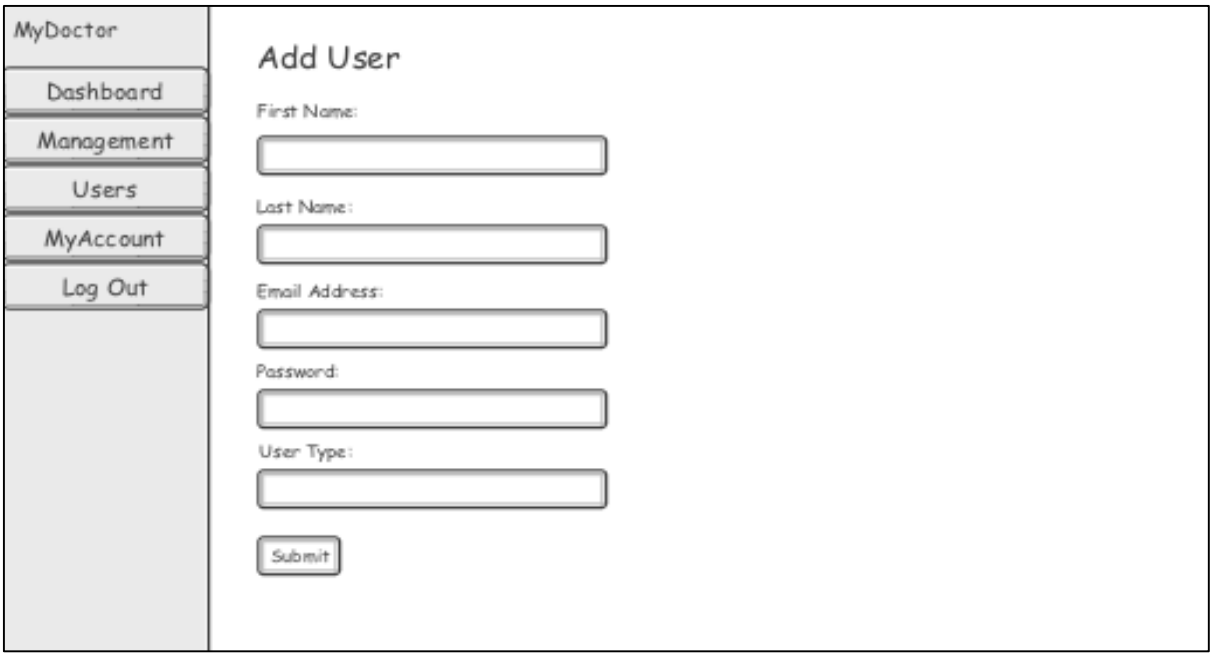
Admin type users have access to a list of all registered users of the system. Allowing for management by viewing or removing accounts from the system. Admin users may also register users to the system.



Users (Admin)



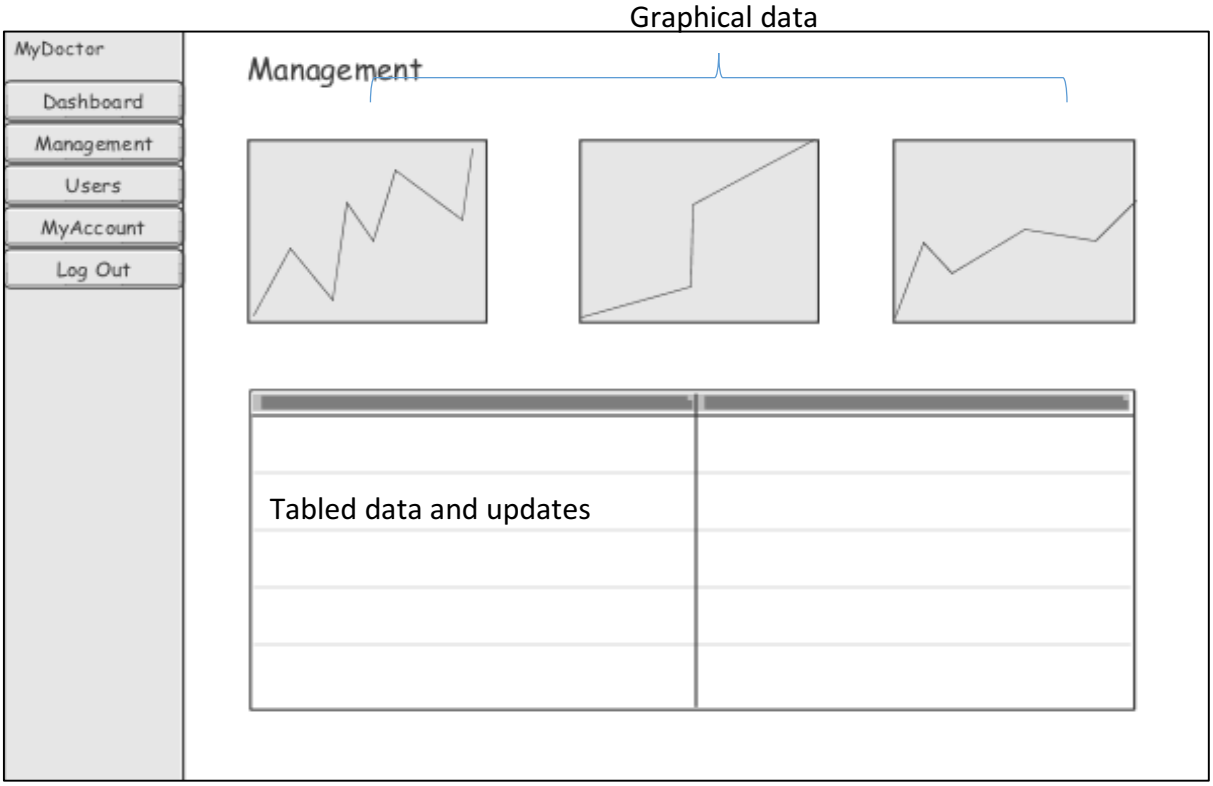
Registered users



Add users

Admin Data Analysis

Admin users will have access to a management area of the system providing up to date analysis of the information stored within the database. This includes data such as average appointment waiting time and length, number of users and patients, and forecasting. This will allow for controlled management of the practice and aid decision making.



Admin management

User Interaction Design

To provide a visual representation of a user's interaction with the system I have created various use case diagrams, identifying the different types of users of the system and the use cases.

As previously mentioned the system contains three user types; Patient, Doctor and Admin. Each type includes varied authorisation to data and features.

Use case name: Login	
User type: Patient, Doctor, Admin	
Description: The user will navigate the system to input account details and login	
Pre-conditions: User has an authorised account	
Basic flow:	1. User inputs login details into provided input boxes on system homepage 2. User selects login button to submit details 3. User gains access to system and is redirected to corresponding dashboard
Alternative flow 1:	1. User selects "my account" located on system homepage 2. User is redirected to login page 3. User inputs login details into provided input boxes and selects login to submit entered details 4. User gains access to system and is redirected to corresponding dashboard
Alternative flow 2:	1. User enters invalid account login details 2. User is redirected to login page 3. User is displayed an error message informing of incorrect details 4. User must re-enter account details 5. User must select submit button
Post conditions	The user is logged in and redirected to corresponding dashboard

Use case name: Help	
User type: Patient, Doctor, Admin	
Description: The user will navigate the system to gain help with access	
Pre-conditions: User has access the login page	
Basic flow:	1. User selects help button 2. User provided with help message to inform how to access to system 3. User selects back to return to login page
Post conditions	The user is logged in and redirected to corresponding dashboard

Use case name: Update personal details	
User type: Patient, Doctor, Admin	
Description: The user will navigate the system to input and update personal details	
Pre-conditions: User has logged in with an authorised account	
Basic flow:	1. User selects “my account” tab within navigation bar 2. User locates personal details and selects edit button 3. User provided input boxes displaying current personal details 4. User must input desired new details into one or more input boxes 5. User must select submit button
Alternative flow:	1. User enters invalid details into input boxes 2. User is provided with an error message to inform them 3. User must re-enter personal details ensuring they match criteria 4. User must select submit button
Post conditions	The user personal details are updated in system database

Use case name: Update account details	
User type: Patient, Doctor, Admin	
Description: The user will navigate the system to input and update account login details	
Pre-conditions: User has logged in with an authorised account	
Basic flow:	1. User selects “my account” tab within navigation bar 2. User locates account details and selects edit button 3. User provided input boxes displaying current account information 4. User must input desired new details into one or more input boxes 5. User must select submit button
Alternative flow:	1. User enters invalid details into input boxes 2. User is provided with an error message to inform them 3. User must re-enter account details ensuring they match criteria 4. User must select submit button
Post conditions	The user account details are updated in system database

Use case name: Appointment arrangement	
User type: Patient	
Description: The user will navigate the system to arrange a doctors appointment	
Pre-conditions: User has logged in with an authorised patient account	
Basic flow:	1. User selects “appointments” tab within navigation bar 2. User locates arrange appointment section and selects request button 3. User provided input boxes 4. User must input required appointment information 5. User must select request button
Alternative flow:	1. User enters invalid or unavailable details into input boxes 2. User is provided with an error message to inform them 3. User must re-enter appointment details ensuring they match criteria 4. User must select request button
Post conditions	The user appointment is added to system database

Use case name: View current problems	
User type: Patient	
Description: The user will navigate the system and view current medical problem history	
Pre-conditions: User has logged in with an authorised patient account	
Basic flow:	1. User selects “medical records” tab within dashboard navigation bar 2. User locates current problems and selects view button 3. User is provided with a table displaying their current problem details
Post conditions	The user is provided their current medical problem history

Use case name: View current medication	
User type: Patient	
Description: The user will navigate the system and view current medication they receive	
Pre-conditions: User has logged in with an authorised patient account	
Basic flow:	1. User selects “medical records” tab within dashboard navigation bar 2. User locates current medication and selects view button 3. User is provided with a table displaying their current problem details
Post conditions	The user is provided with their current medication details

Use case name: View test results	
User type: Patient	
Description: The user will navigate the system and	
Pre-conditions: User has logged in with an authorised patient account	
Basic flow:	1. User selects “medical records” tab within dashboard navigation bar 2. User locates test results and selects view button 3. User is provided with a table displaying test result history
Post conditions	User provided with details of their test result history

Use case name: View allergy details	
User type: Patient	
Description: The user will navigate the system view their allergy details	
Pre-conditions: User has logged in with an authorised patient account	
Basic flow:	1. User selects “medical records” tab within navigation bar 2. User locates allergies section and selects view button 3. User provided table of current allergies
Post conditions	The user updates their allergy details within the systems database

Use case name: View current appointments (calendar)	
User type: Doctor	
Description: The user will navigate the system and view appointments within calendar format	
Pre-conditions: User has logged in with an authorised doctor account	
Basic flow:	1. User selects “appointments” tab within navigation bar 2. User locates my calendar section and selects view calendar button 3. User provided calendar of all appointments with patients
Post conditions	User provided with details of their appointment history and schedule

Use case name: Update appointments
User type: Doctor
Description: The user will navigate the system to provide an appointment update
Pre-conditions: User has logged in with an authorised doctor account

Basic flow:	1. User selects “appointments” tab within navigation bar 2. User locates update appointments section and selects update appointment button 3. User provided input boxes to enter appointment information 4. User inputs required appointment information 5. User must select submit button
Alternative flow:	1. User selects “appointments” tab within navigation bar 2. User locates my calendar section and selects view calendar button 3. User provided calendar of all appointments with patients 4. User locates appointment requiring updating 5. User selects that appointment event 6. User provided input boxes to enter appointment information 7. User inputs required appointment information 8. User must select submit button
Alternative flow 2:	1. User enters invalid details into input boxes 2. User is provided with an error message to inform them 3. User must ensure all input boxes are completed correctly 4. User must select submit button
Post conditions	The user updates appointment records within the systems database

Use case name: Prescribe medication	
User type: Doctor	
Description: The user will navigate the system to provide a patient with prescription medicine	
Pre-conditions: User has logged in with an authorised doctor account	
Basic flow:	1. User selects “prescriptions” tab within navigation bar 2. User locates prescribe section and selects prescribe button 3. User provided input boxes to enter prescription information 4. User inputs required prescription information 5. User must select prescribe button
Alternative flow:	1. User enters invalid details into input boxes 2. User is provided with an error message to inform them 3. User must ensure all input boxes are completed correctly 4. User must select submit button
Post conditions	The user updates prescription records within the systems database

Use case name: Search for medicine information
User type: Doctor
Description: The user will navigate the system to view information about medicines
Pre-conditions: User has logged in with an authorised doctor account

Basic flow:	1. User selects “medicines” tab within navigation bar 2. User locates search bar and inputs required medicine name 3. User selects Search! Button 4. A new tab is opened within browser with required information
Post conditions	User provided with information of required medicine

Use case name: View prescriptions	
User type: Doctor	
Description: The user will navigate the system to view information about prescriptions	
Pre-conditions: User has logged in with an authorised doctor account	
Basic flow:	1. User selects “prescriptions” tab within navigation bar 2. User locates your patient prescriptions section 3. User selects view all button 4. User is displayed new page containing all prescription history
Post conditions	User provided with information of their patient prescriptions

Use case name: Patient requests repeat prescription	
User type: Patient	
Description: The user will navigate the system to submit a request for repeat prescription	
Pre-conditions: User has logged in with an authorised patient account and has previous prescriptions	
Basic flow:	1. User selects “prescriptions” tab within navigation bar 2. User provided table of prescription history 3. User selects Click Here within Repeat Request column
Post conditions	The user updates their prescription medicine status to requested within the systems database

Use case name: View registered users	
User type: Admin	
Description: The user will navigate the system and access details of all registered users	
Pre-conditions: User has logged in with an authorised admin account	
Basic flow:	1. User selects “users” tab within navigation bar 2. User locates registered users and selects view button 3. User provided table containing details of all registered users
Post conditions	User provided details of all users registered in the system

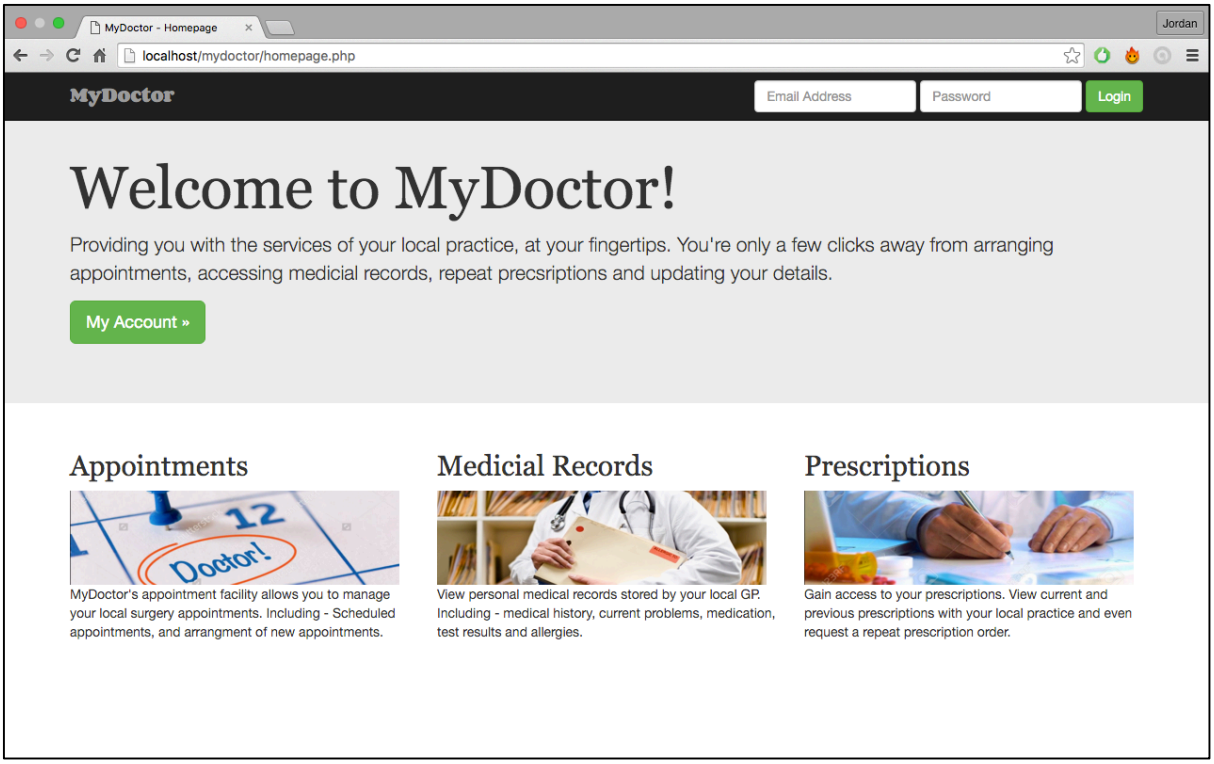
Use case name: Add user	
User type: Admin	
Description: The user will navigate the system and add a new user	
Pre-conditions: User has logged in with an authorised admin account	
Basic flow:	1. User selects “users” tab within navigation bar 2. User locates add users and selects add button 3. User provided input boxes to enter new user information 4. User must select submit button
Alternative flow:	1. User enters invalid or incomplete details 2. User is provided with an error message to inform them 3. User must re-enter account details ensuring they match criteria 4. User must select submit button
Post conditions	The user adds a new user account to the system database

Use case name: Remove user	
User type: Admin	
Description: The user will navigate the system and remove a user	
Pre-conditions: User has logged in with an authorised admin account	
Basic flow:	1. User selects “users” tab within navigation bar 2. User locates registered users and selects view button 3. User provided table containing details of all registered users 4. User selects selects click here in remove column 5. User provided warning message 6. User selects click here within warning message to continue
Alternative flow:	1. User is on the admin dashboard 2. User locates registered users and selects view button 3. User provided table containing details of all registered users 4. User selects selects click here in remove column 5. User provided warning message 6. User selects click here within warning message to continue
Post conditions	User account is removed from system database

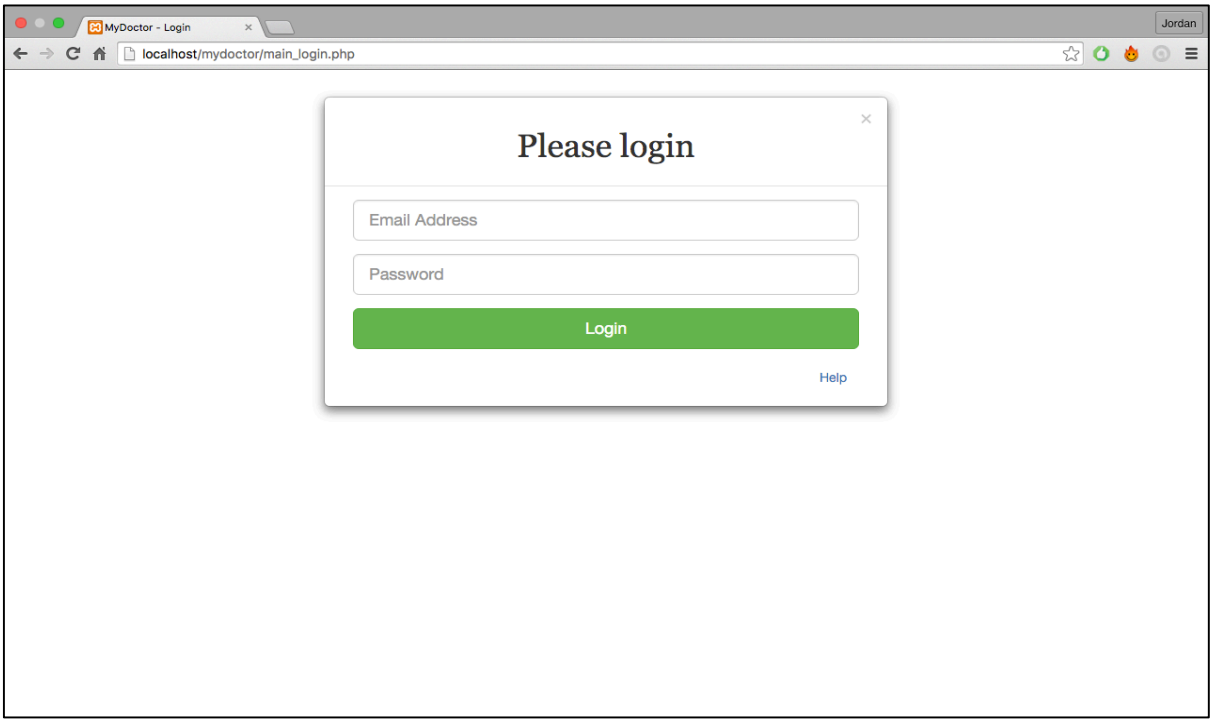
Use case name: Management	
User type: Admin	
Description: The user will navigate the system and access the data analysis section	
Pre-conditions: User has logged in with an authorised admin account	
Basic flow:	1. User selects “management” tab within navigation bar 2. User provided with administration data
Post conditions	User provided analysis of system data to aid management decisions

Implemented System

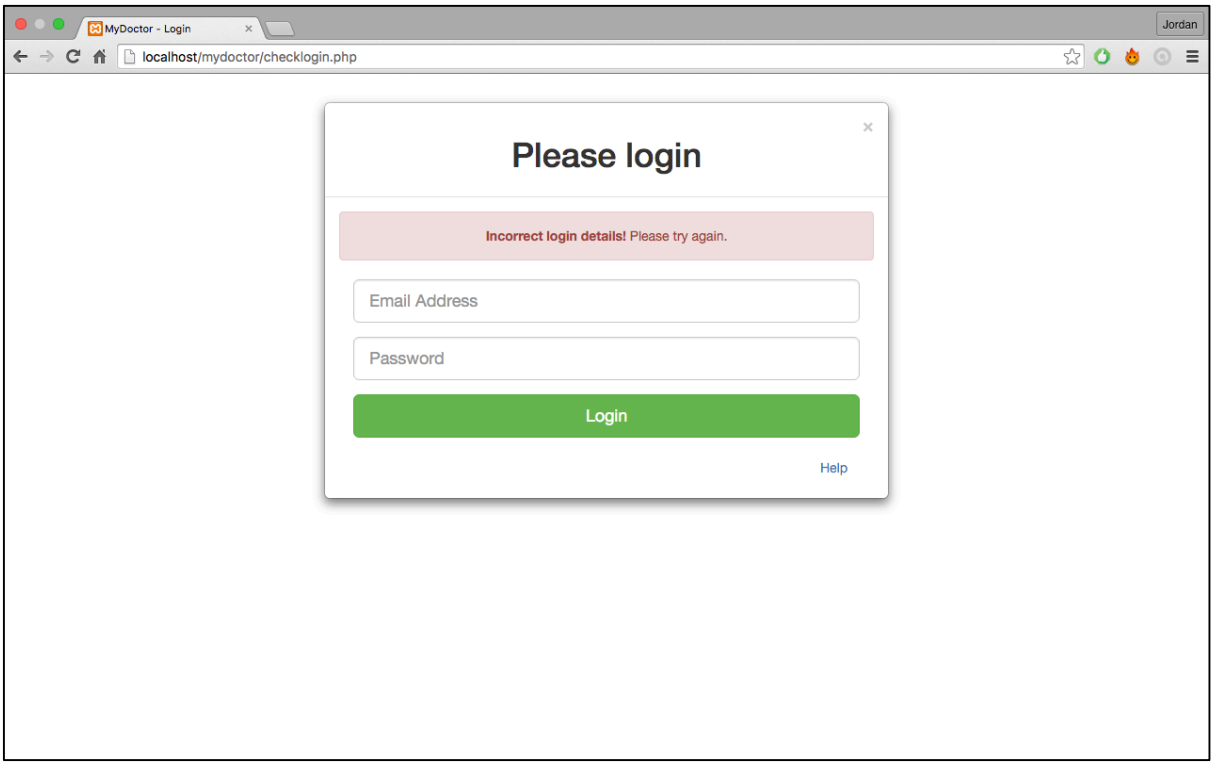
The following section will contain screen shots of each page implemented within the system.



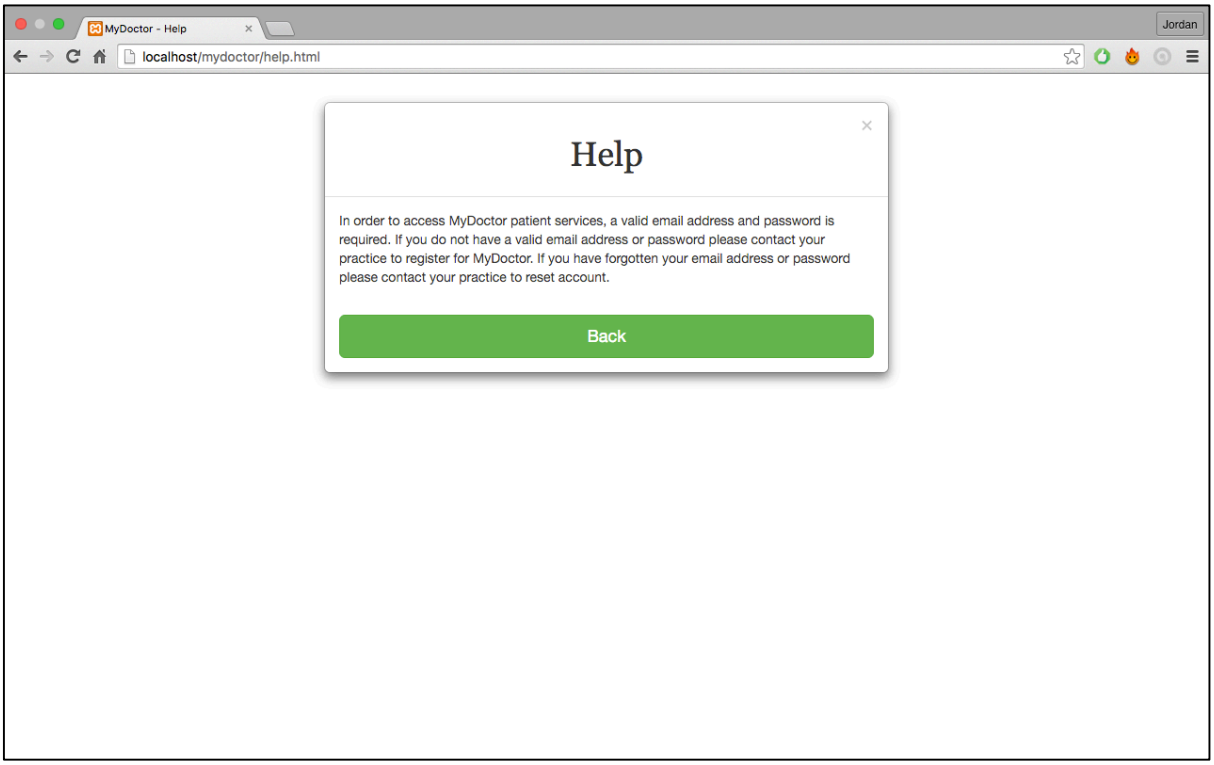
Homepage



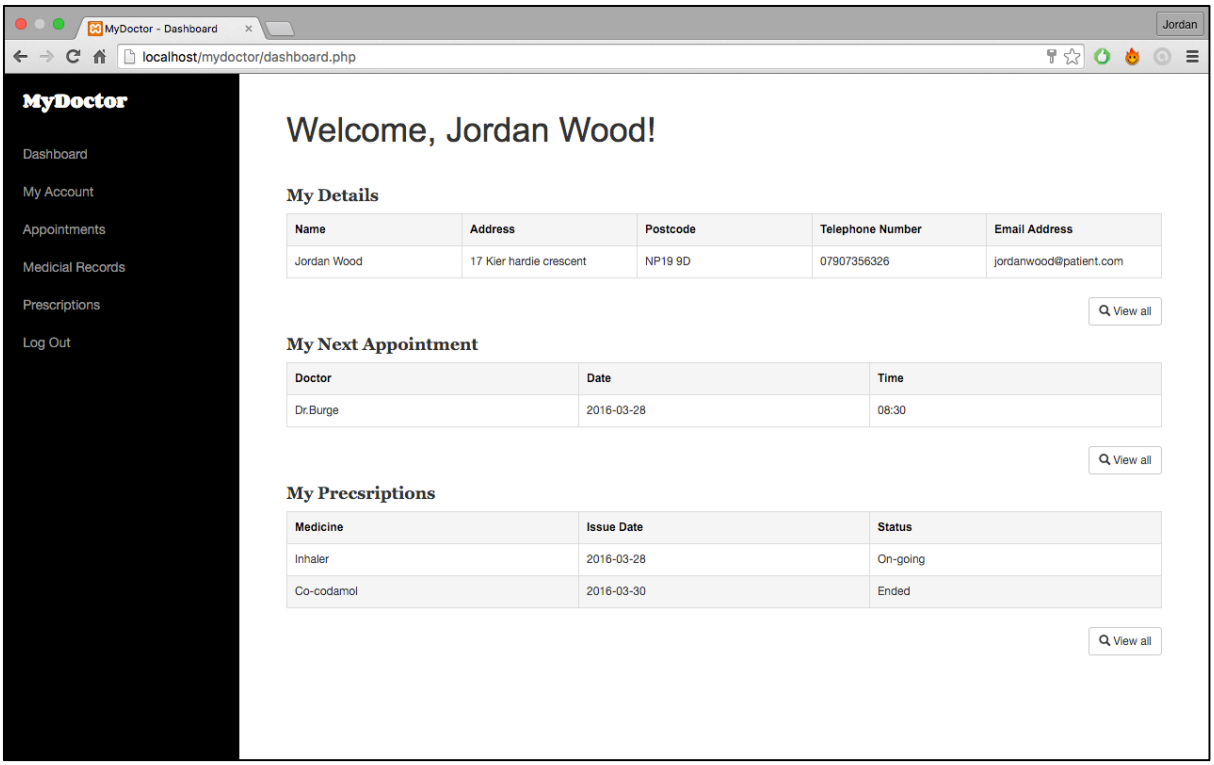
Login



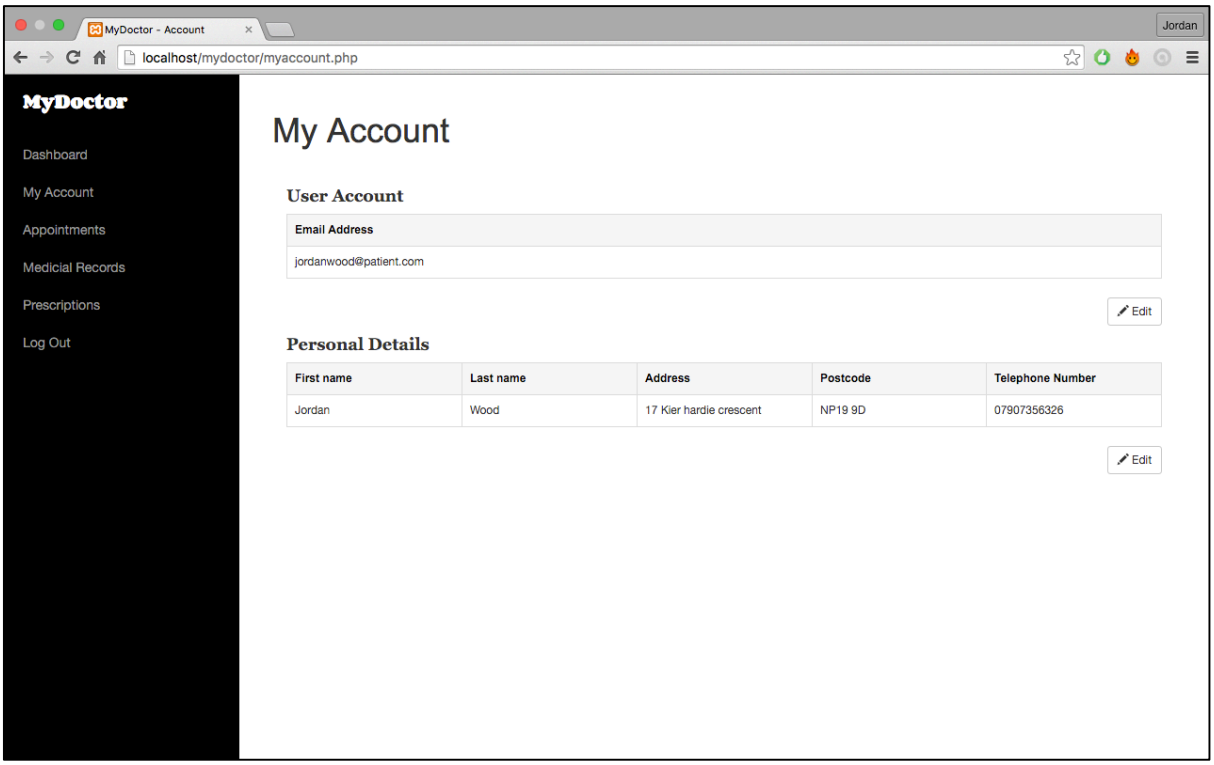
Login incorrect details



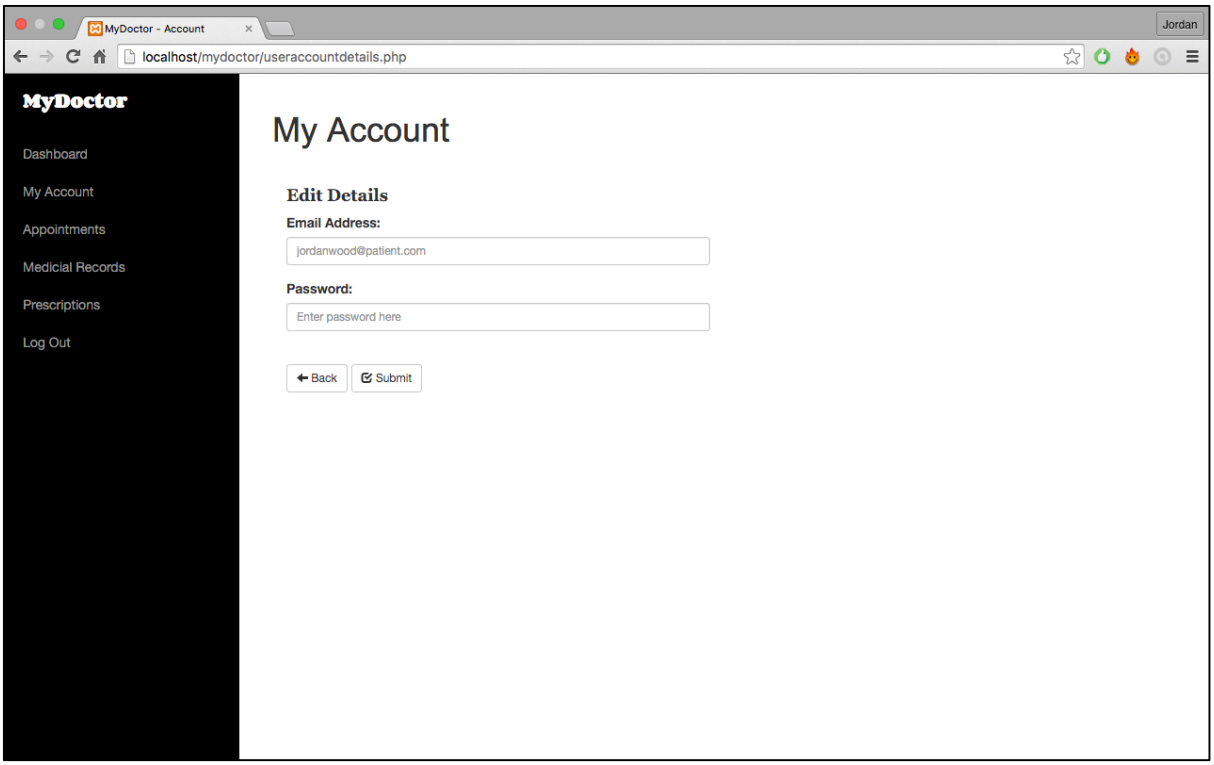
Help



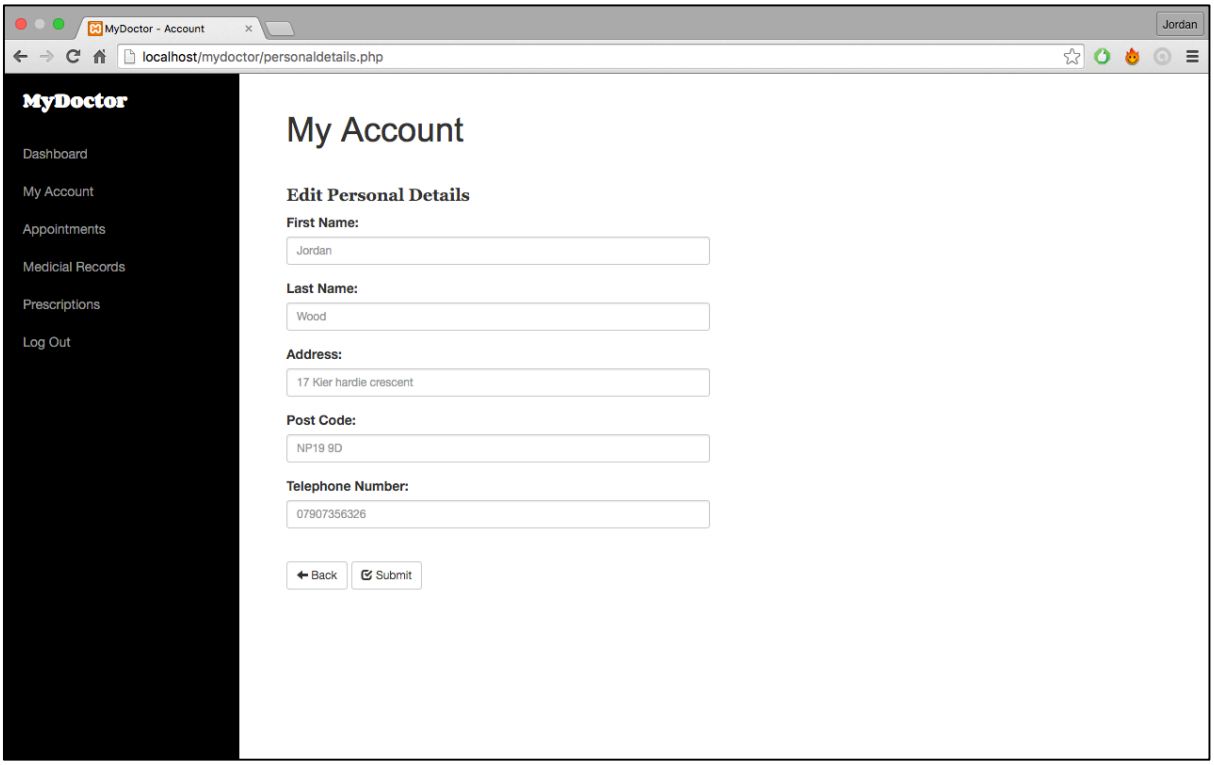
Patient Dashboard



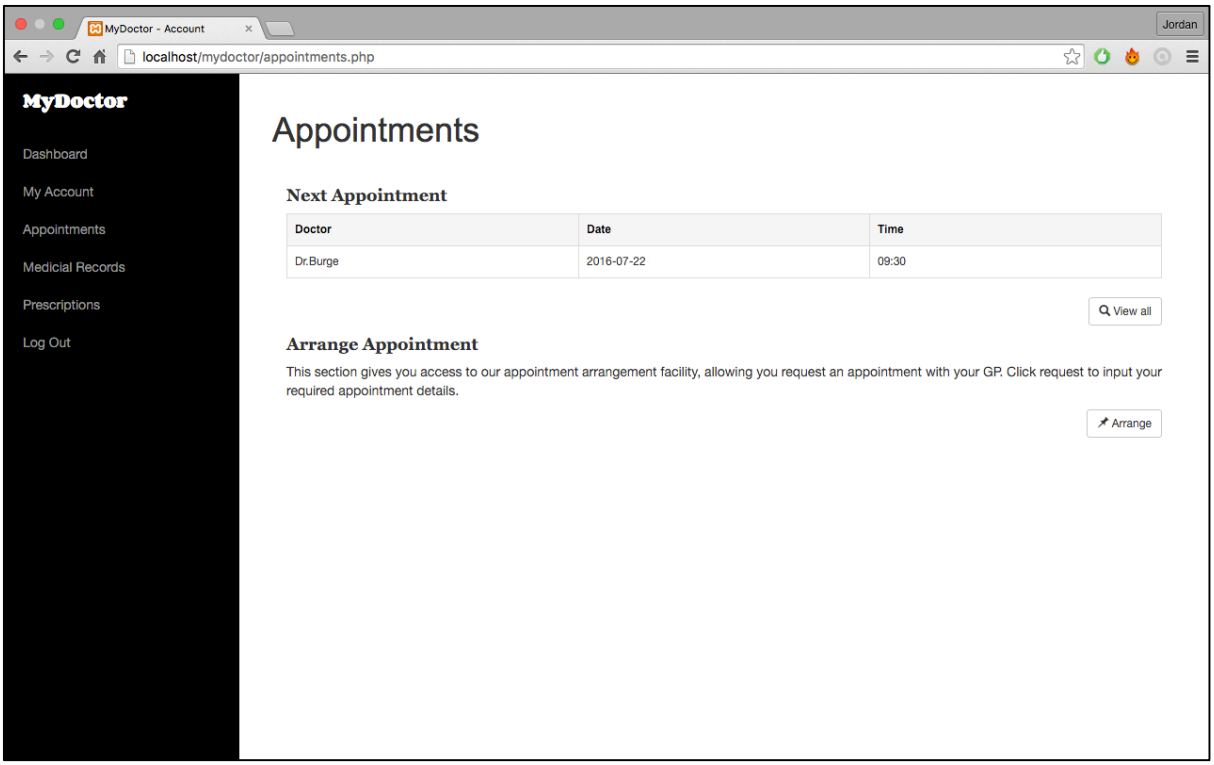
Patient My Account



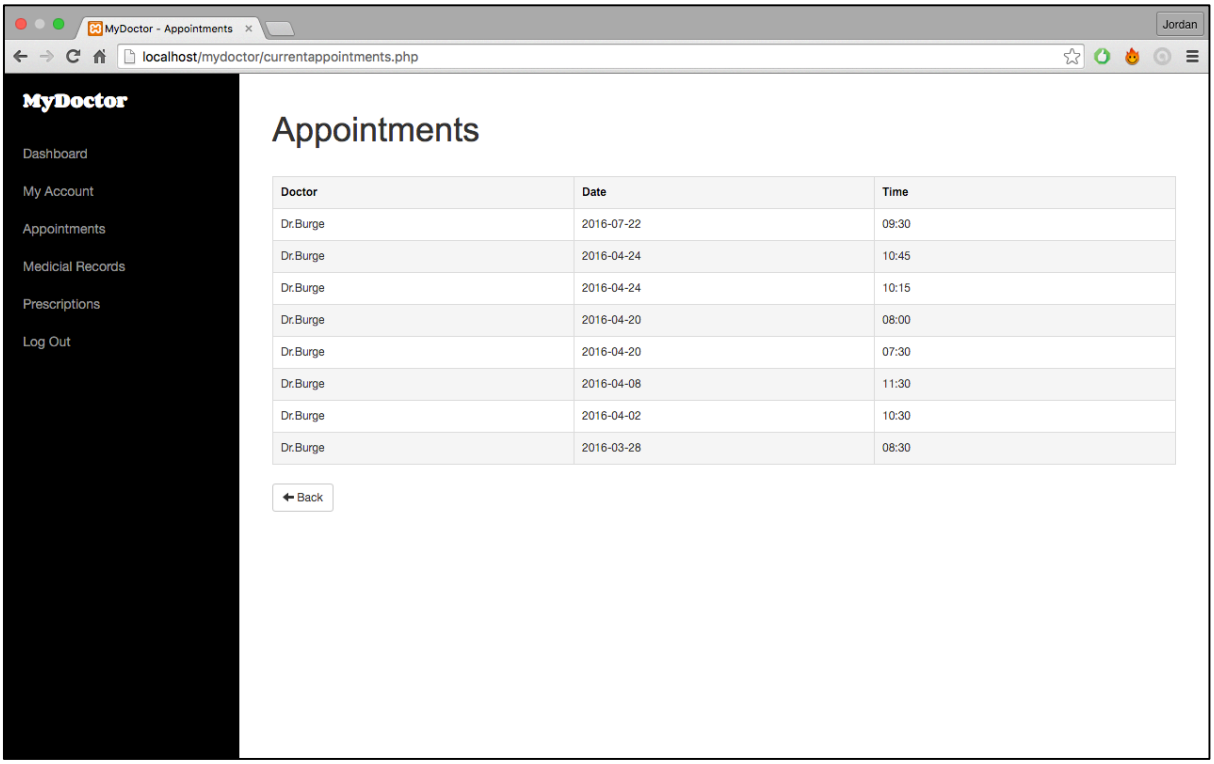
Patient Edit Account



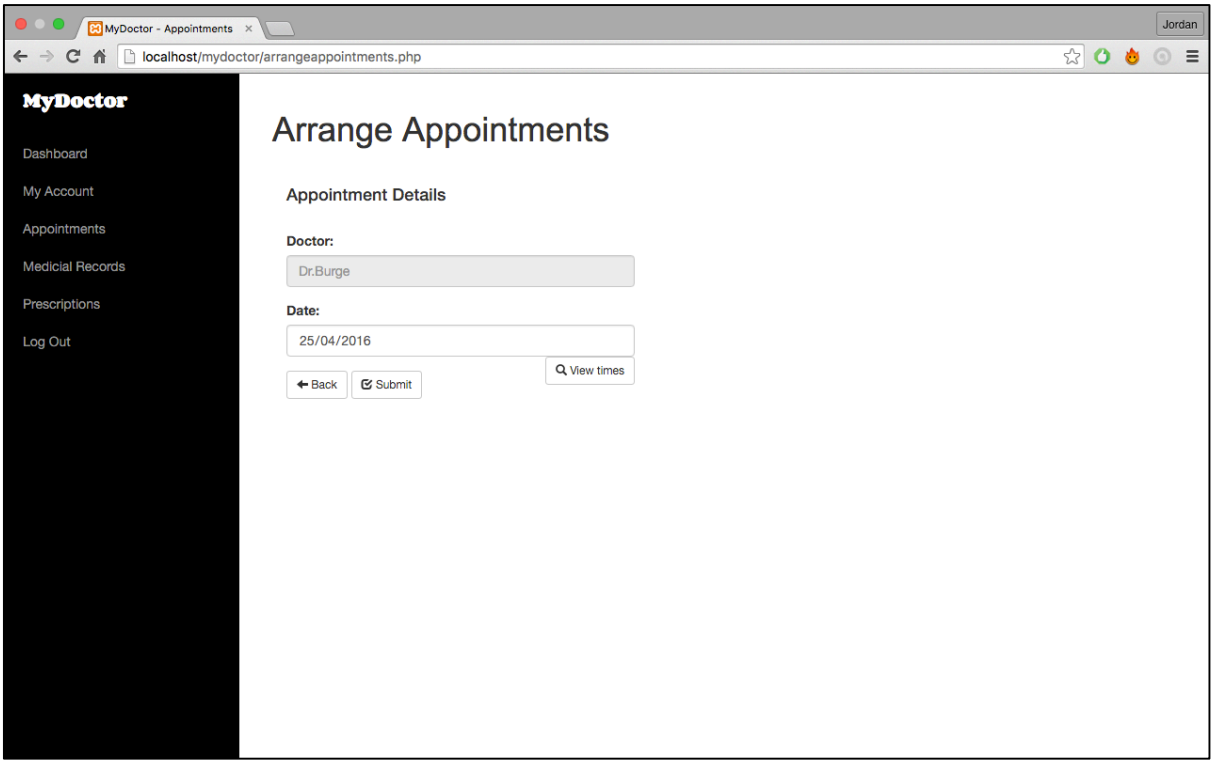
Patient Edit Personal



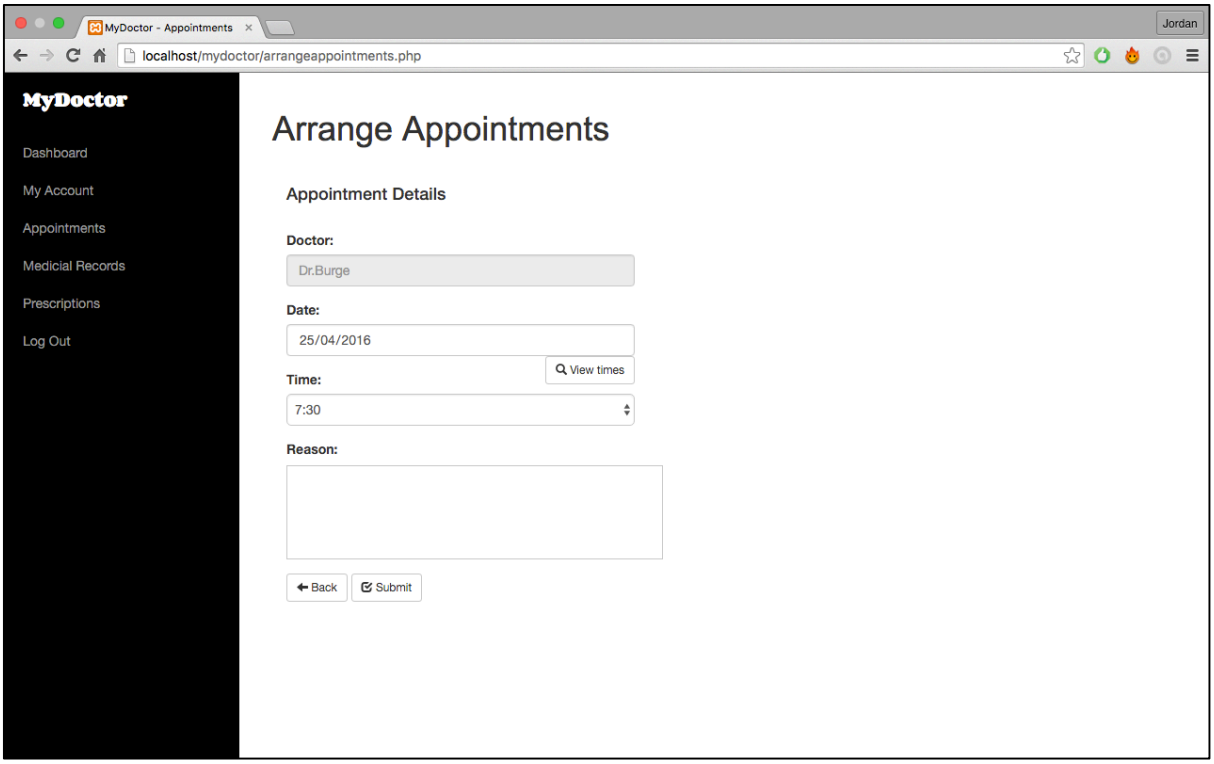
Patient Appointments



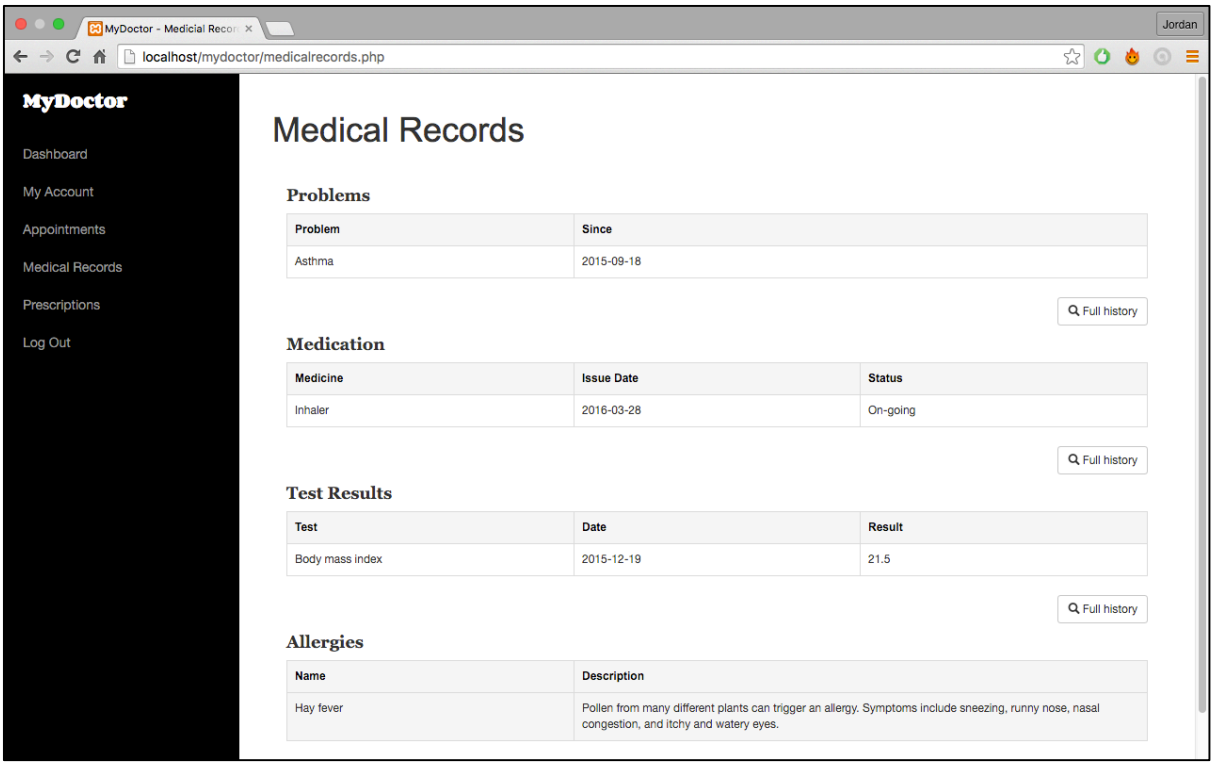
Patient Appointments



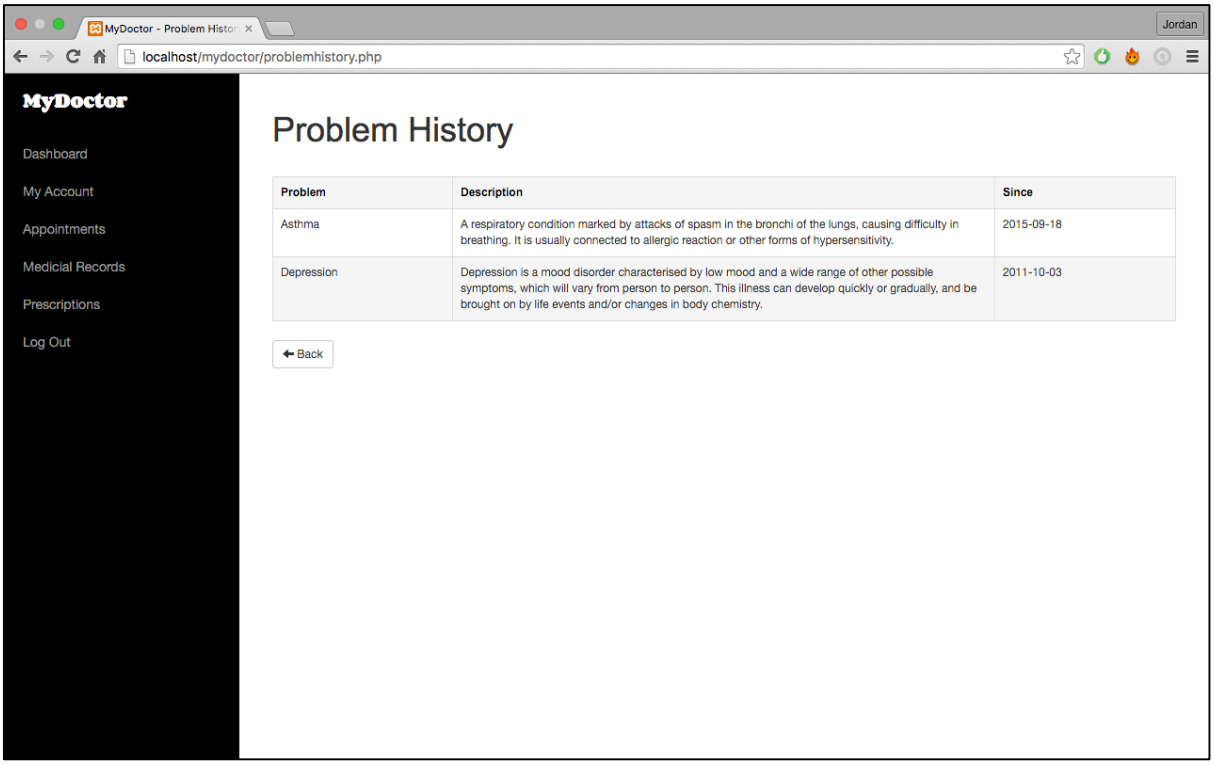
Patient Arrange Appointment



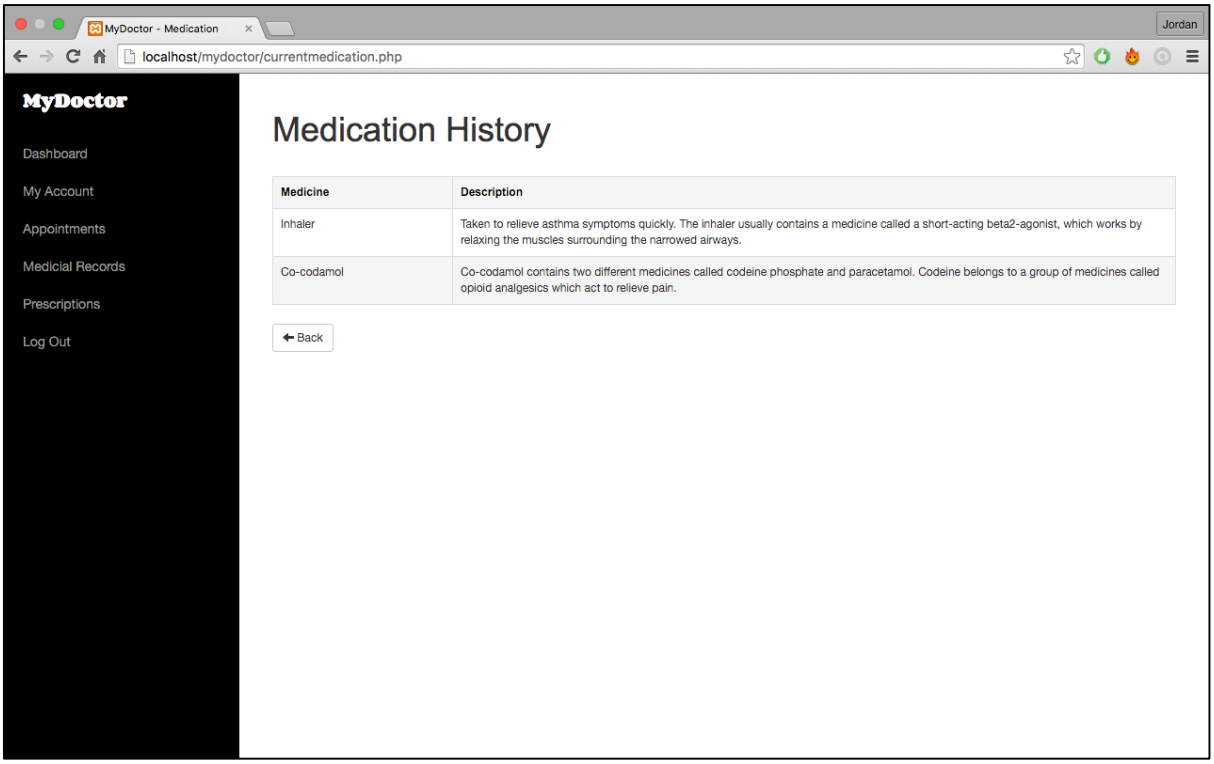
Patient Arrangement Appointment 2



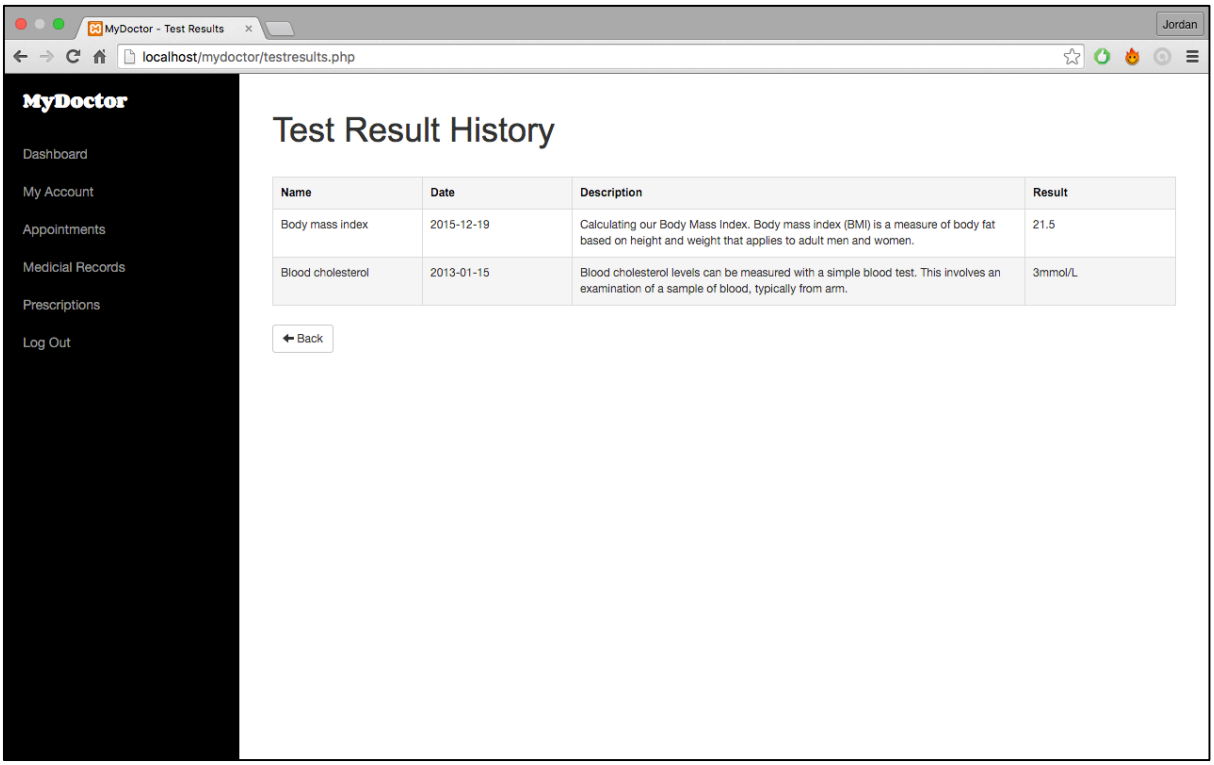
Patient Medical Records



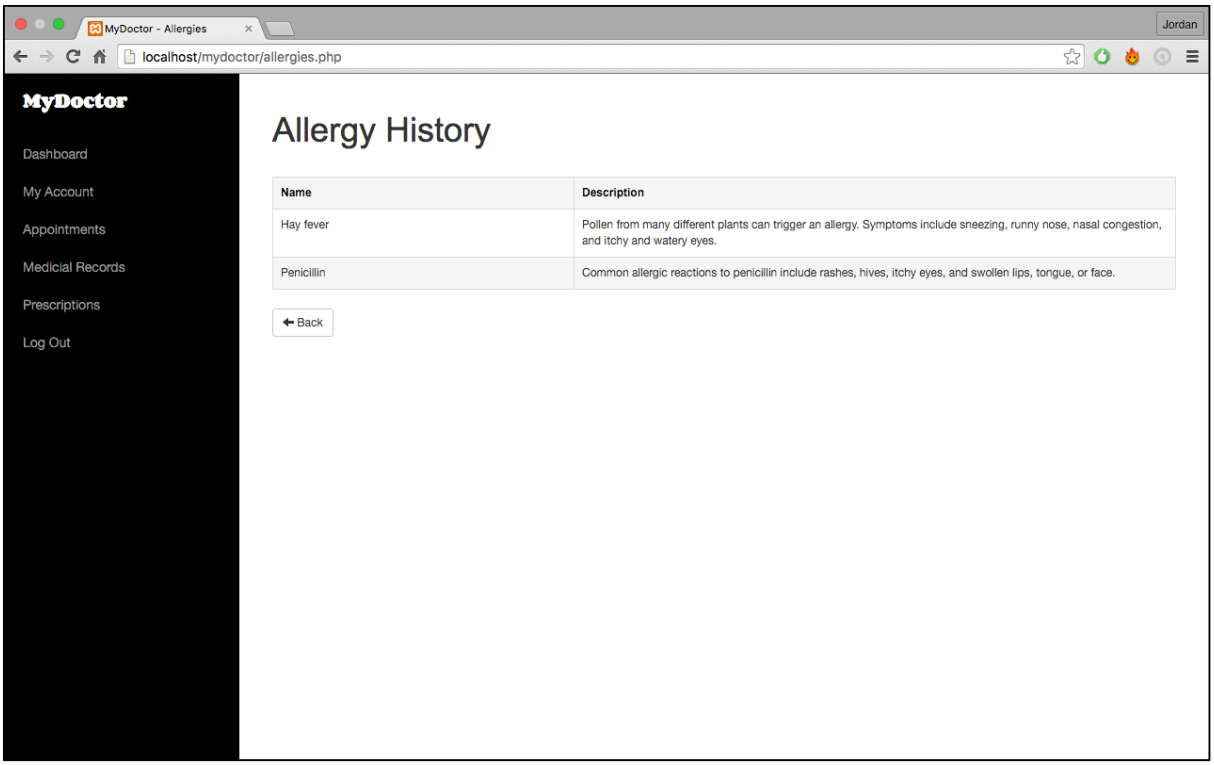
Problem History



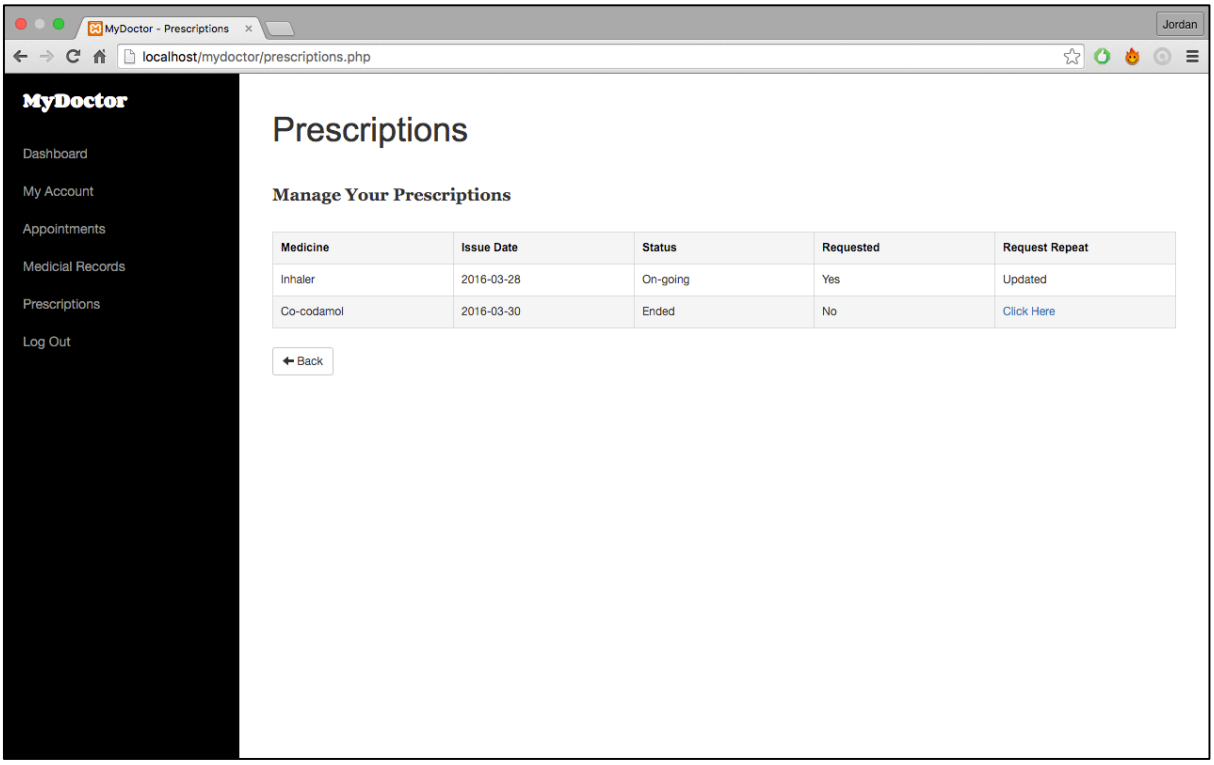
Medication History



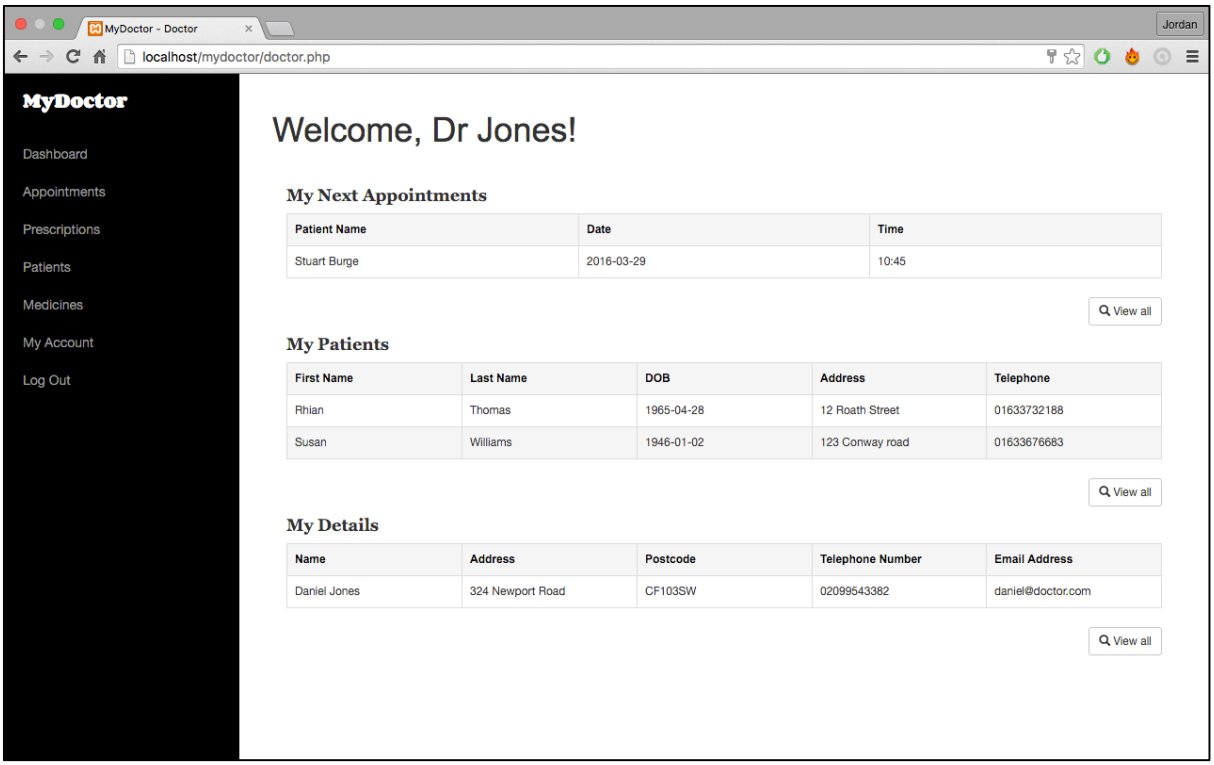
Test Result History



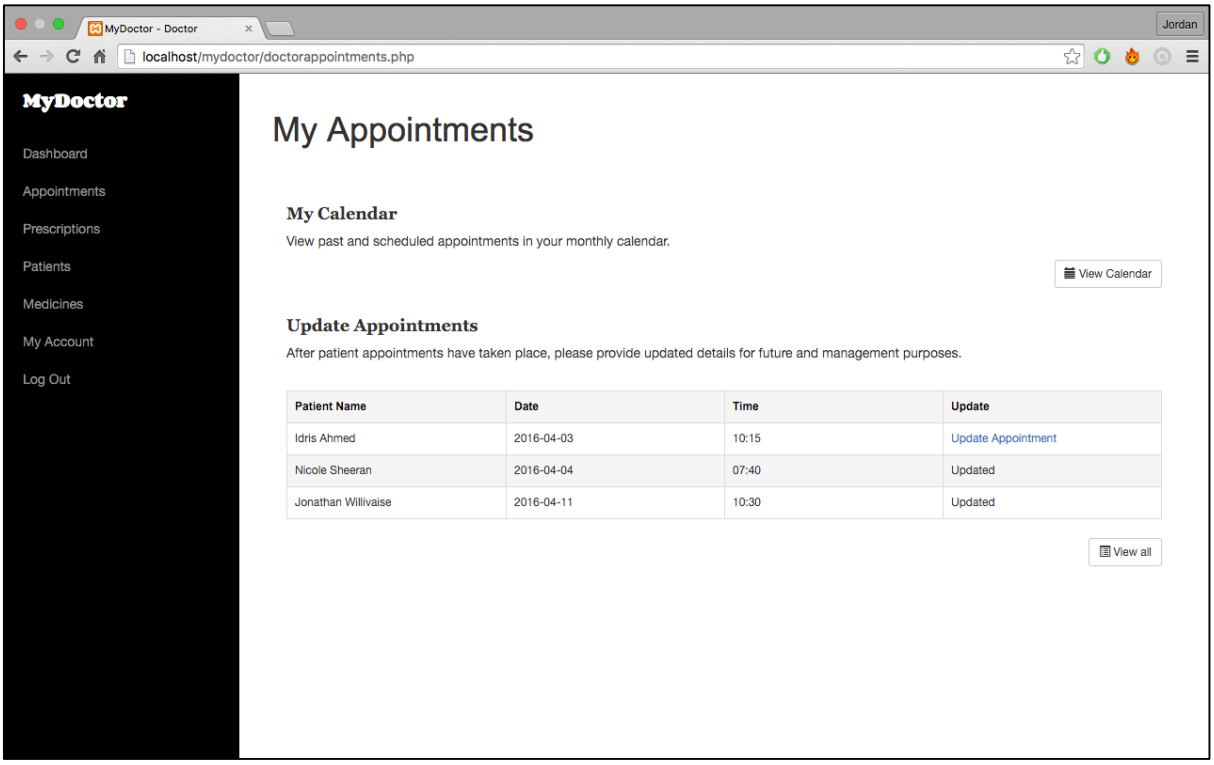
Allergy History



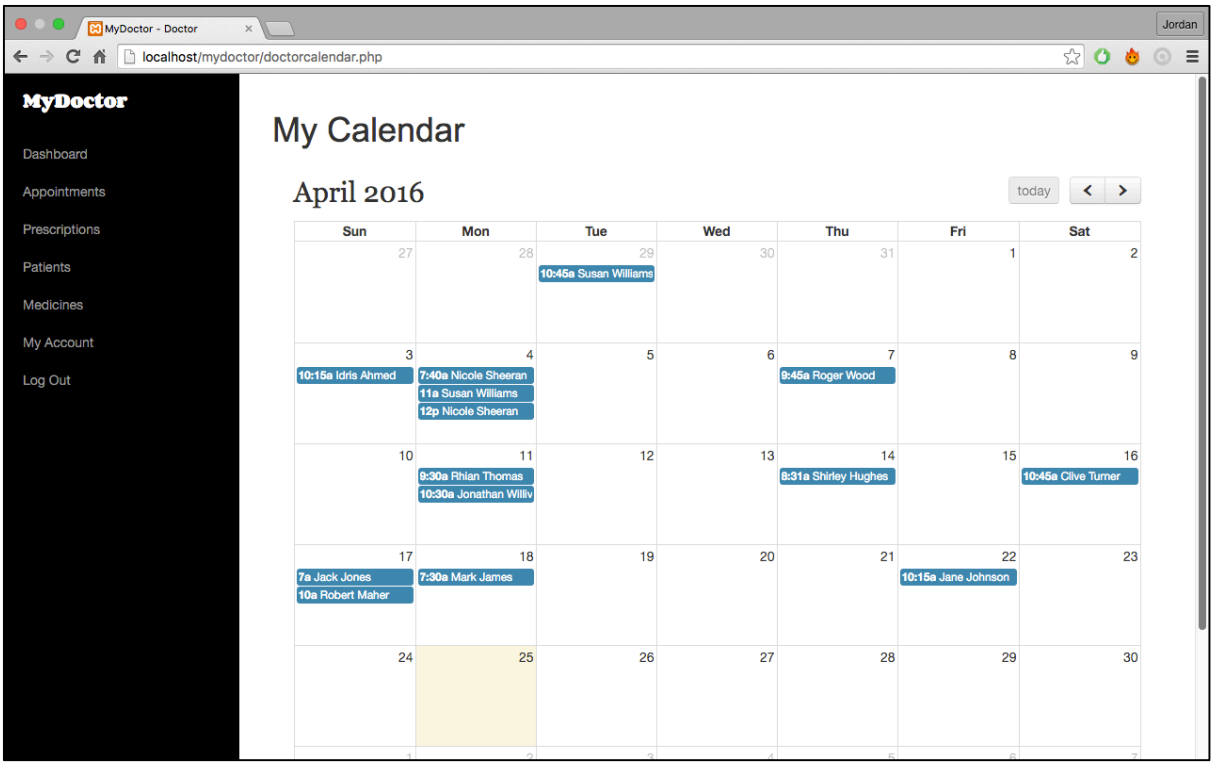
Prescriptions



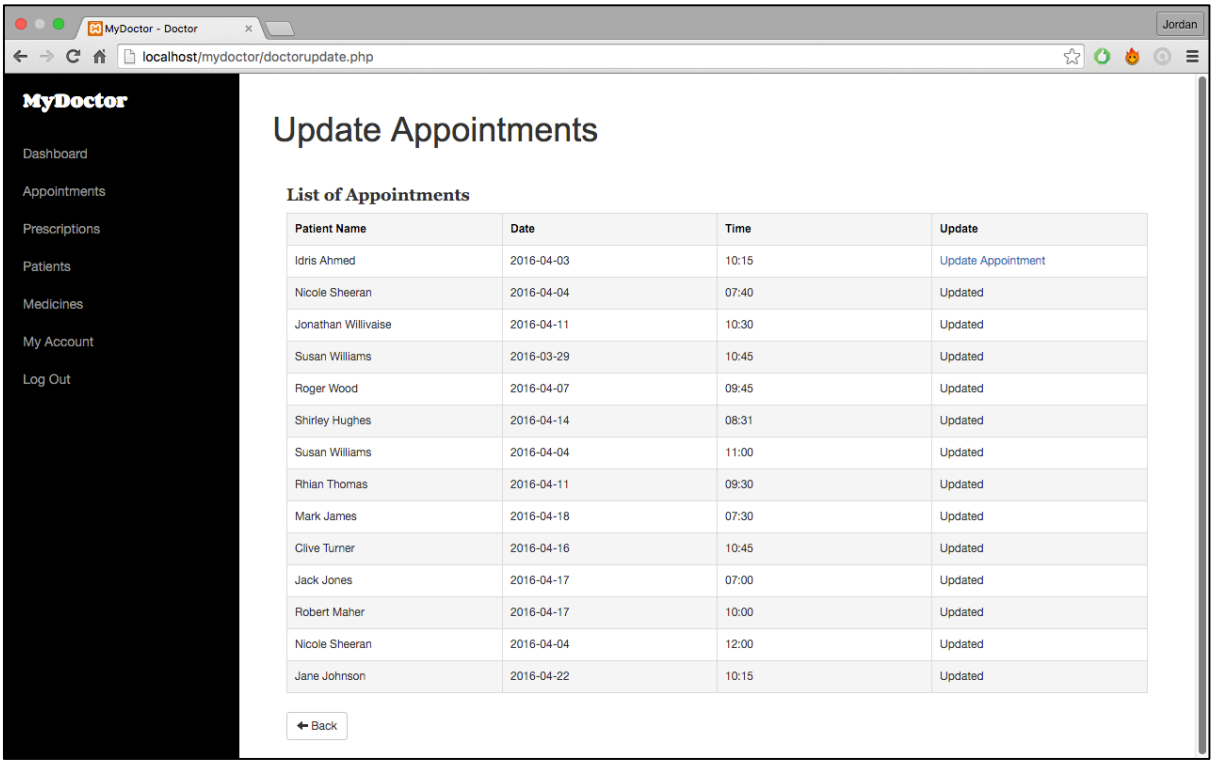
Doctor Dashboard



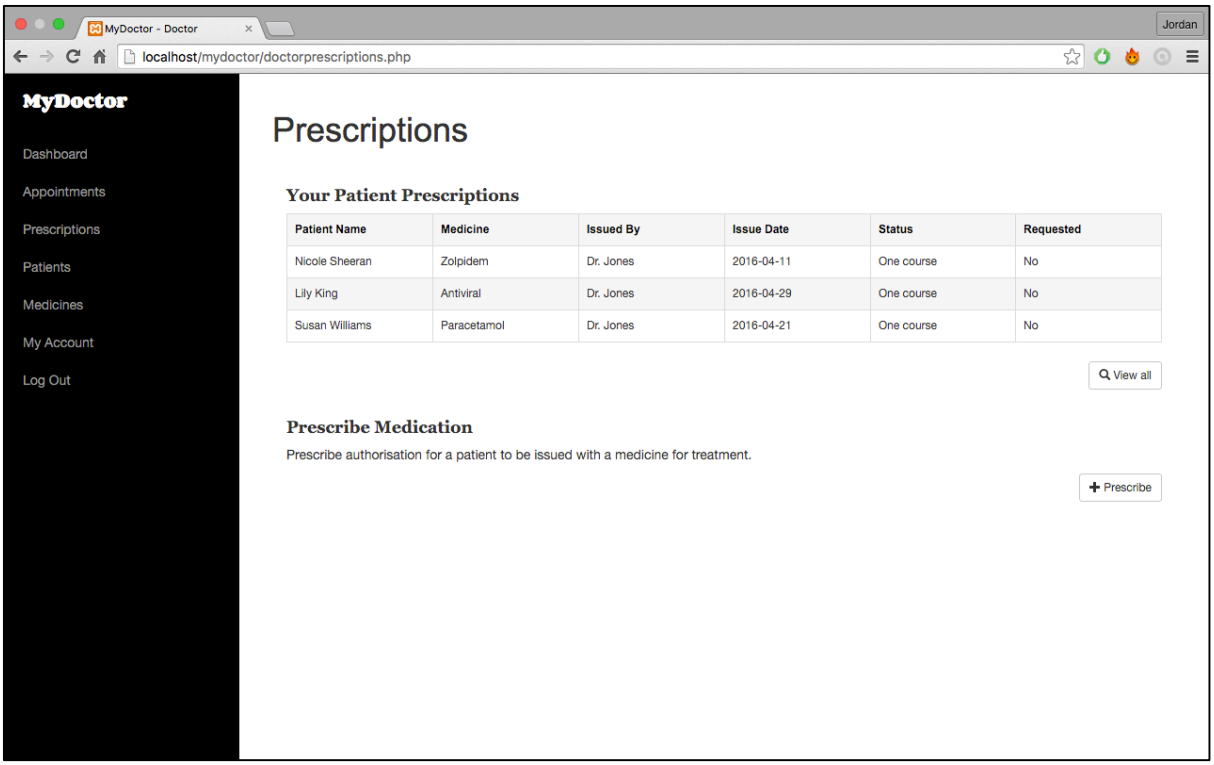
Doctor Appointments



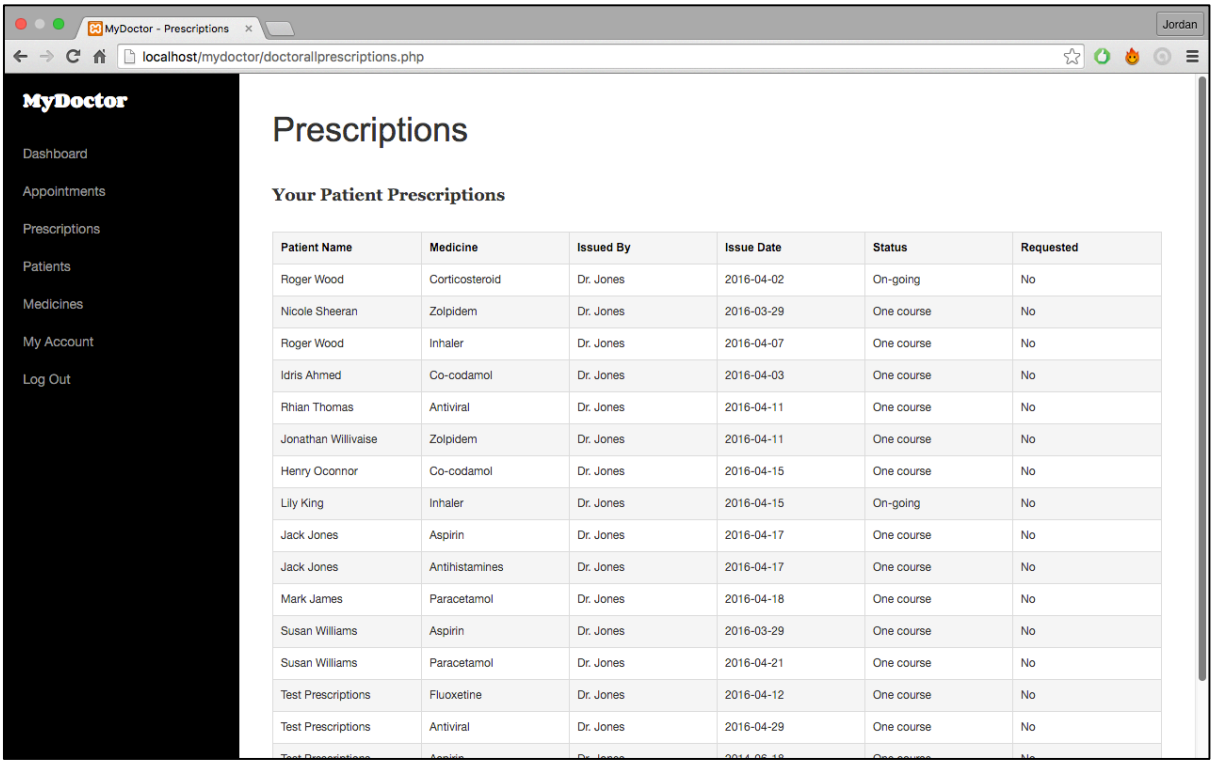
Doctor Calendar



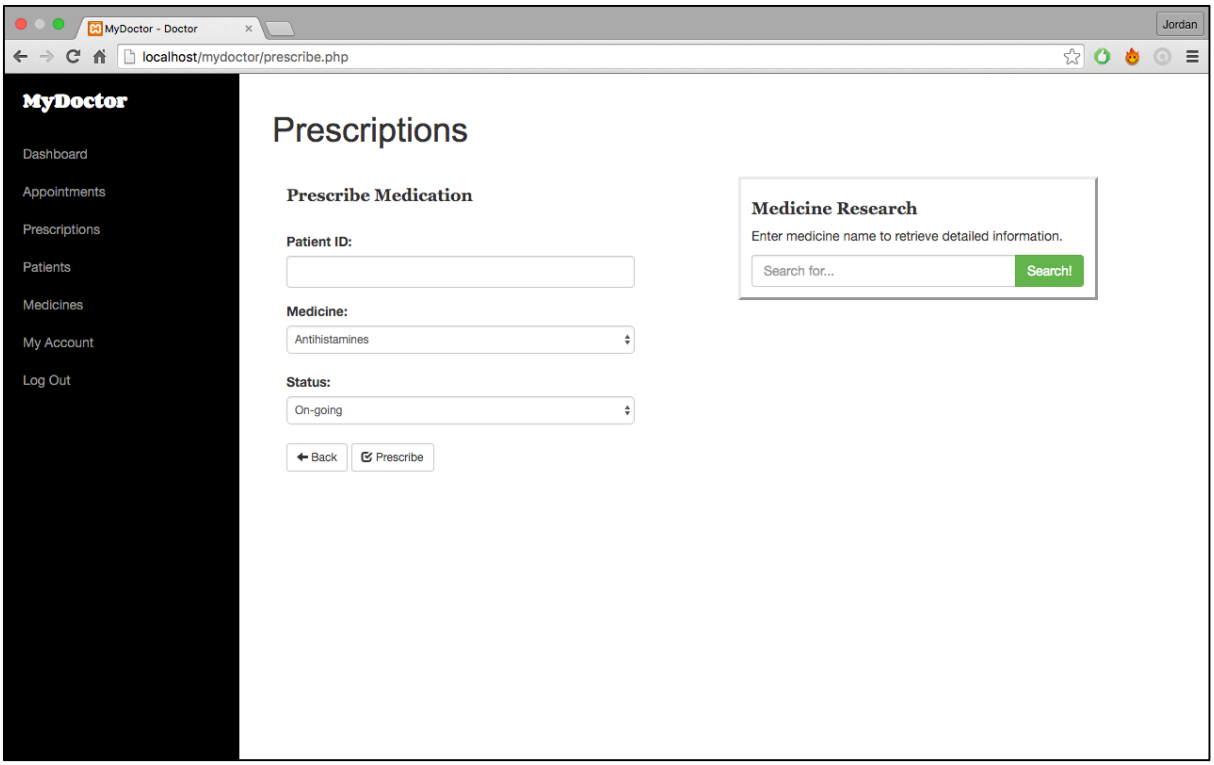
Doctor Update Appointments



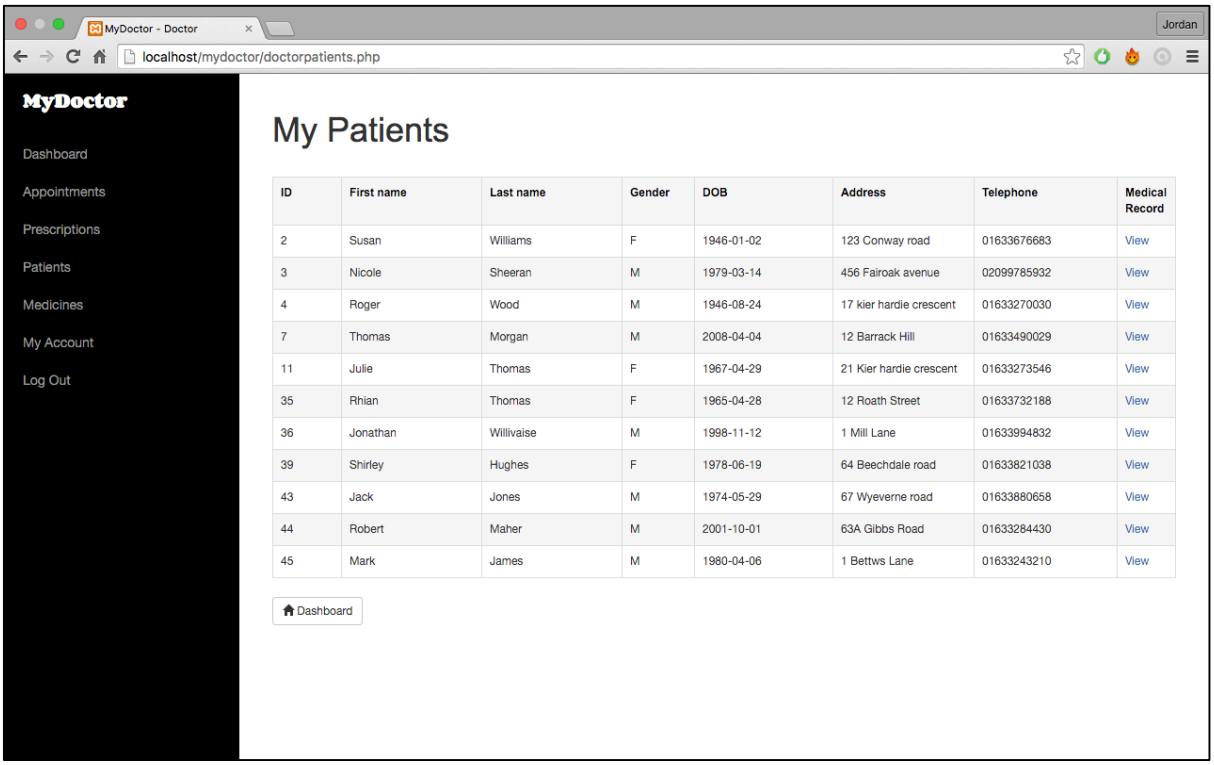
Doctor Prescriptions



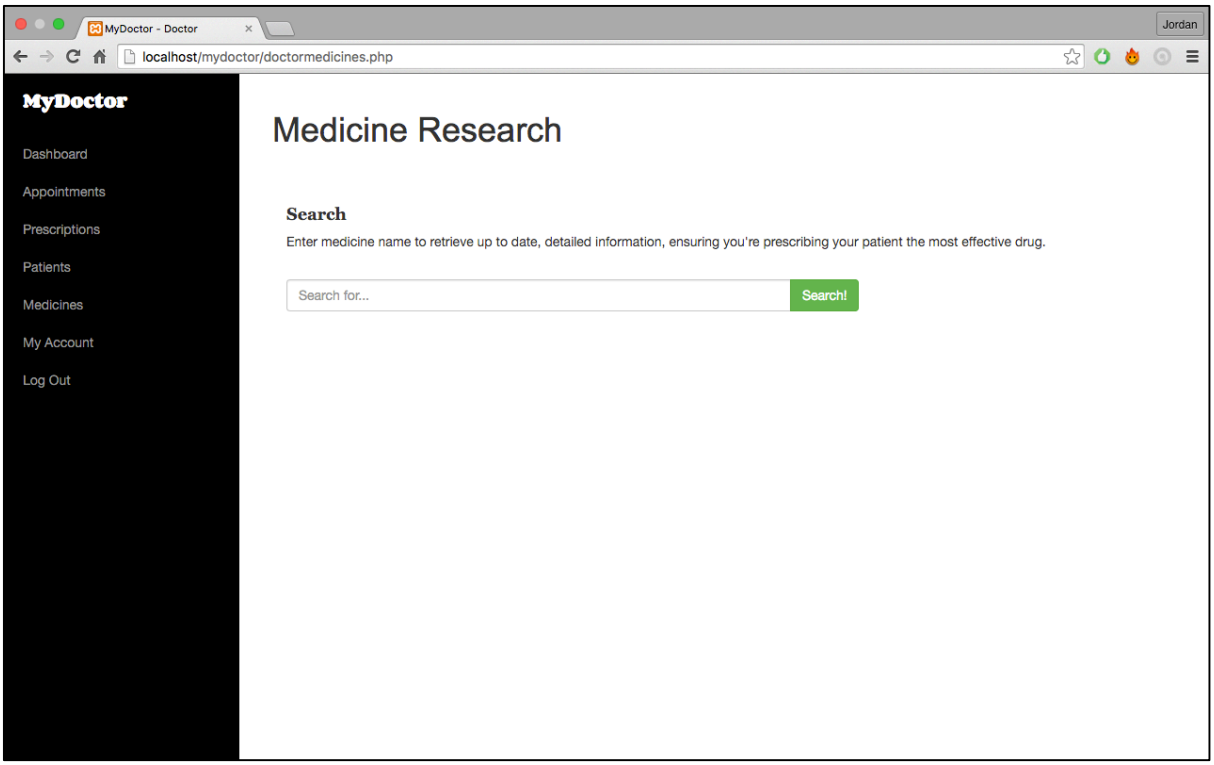
Doctor Prescriptions



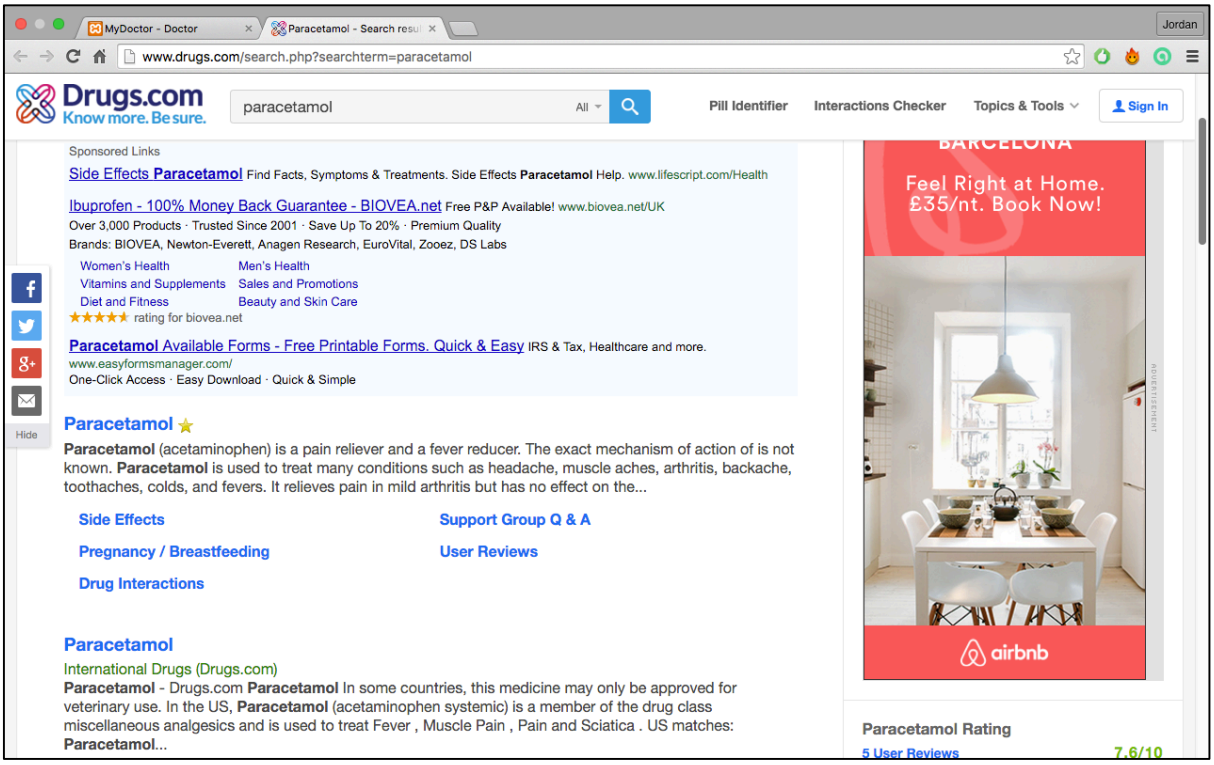
Prescribe



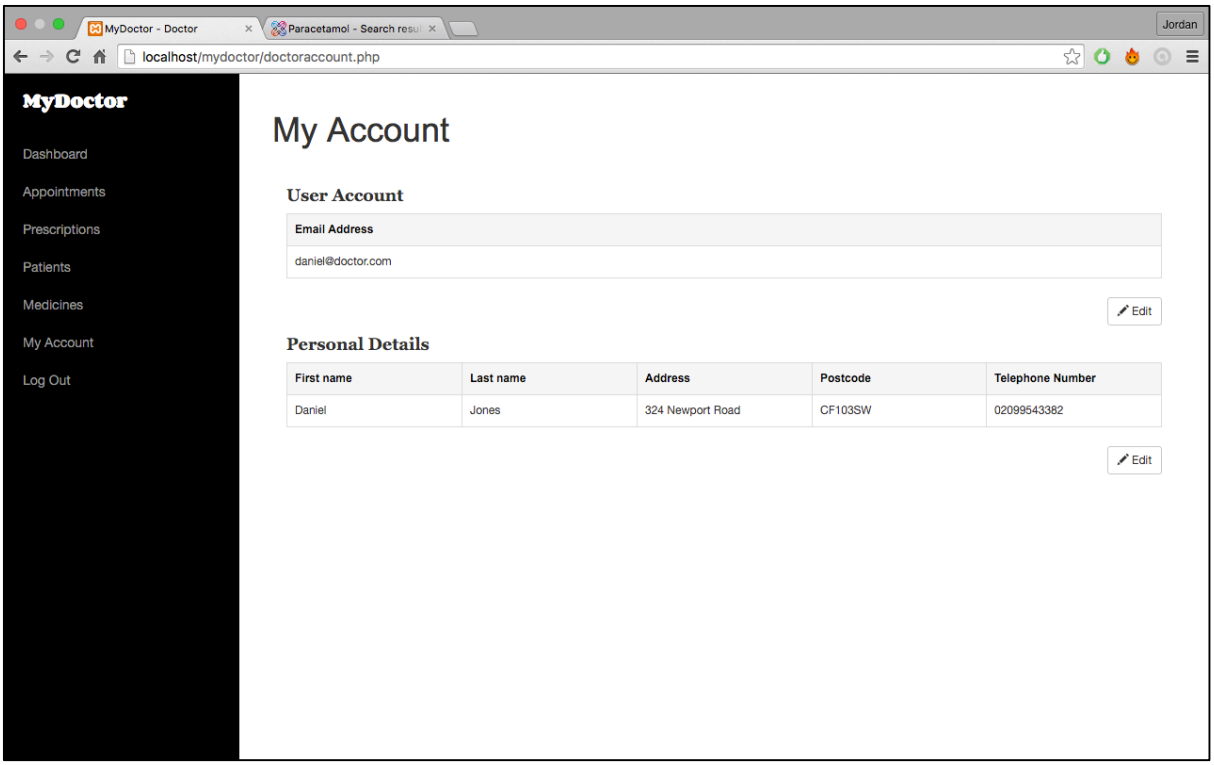
Doctor Patients



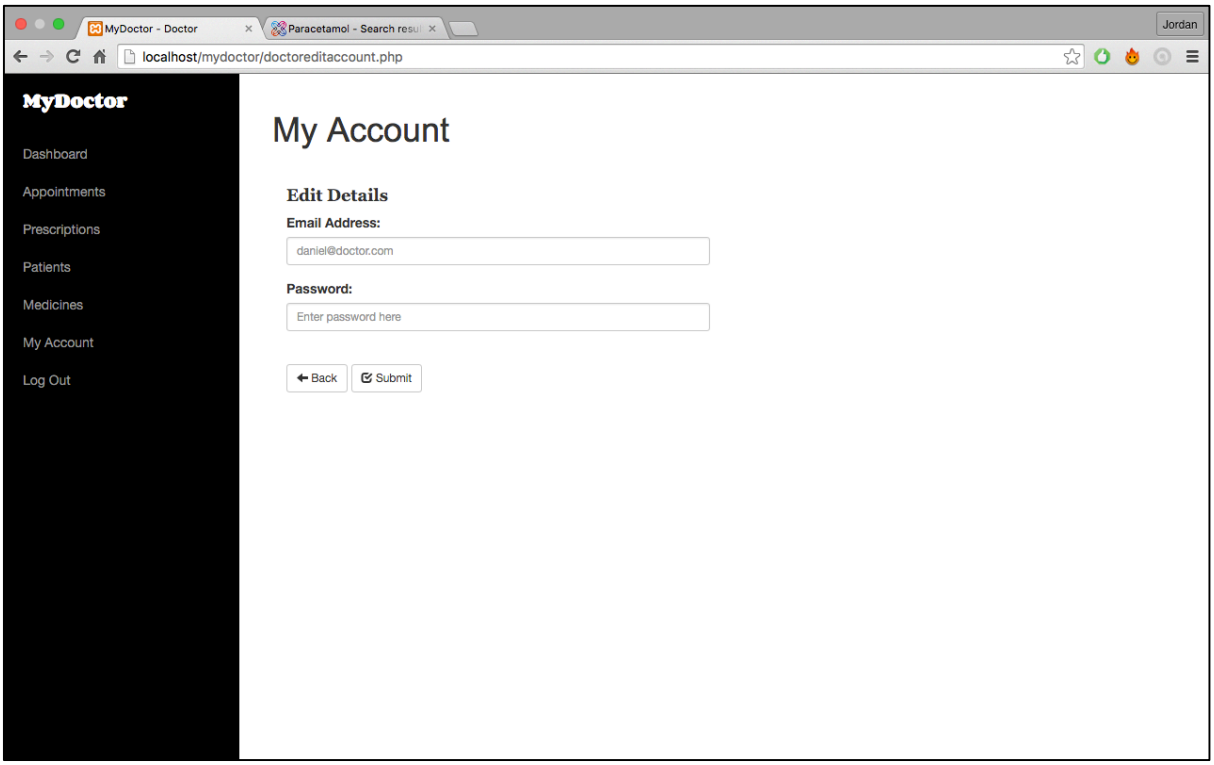
Medicine Research



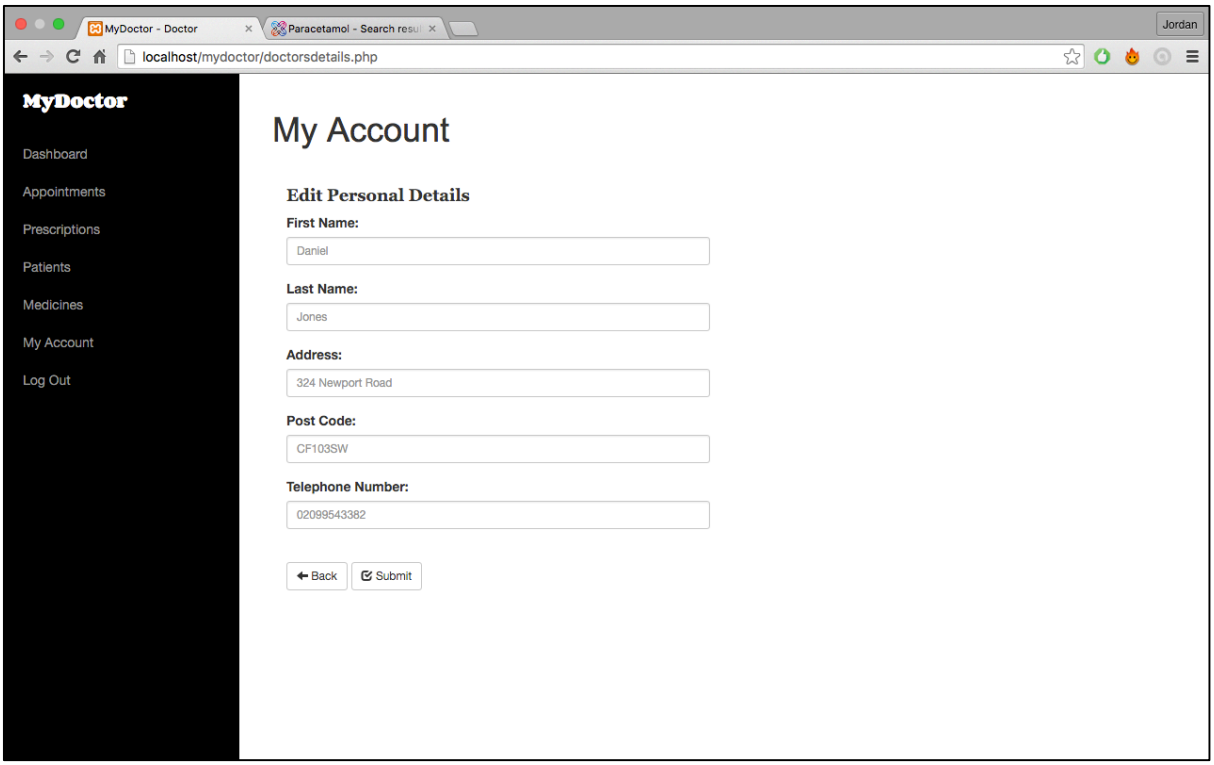
Medicine Research – Search results



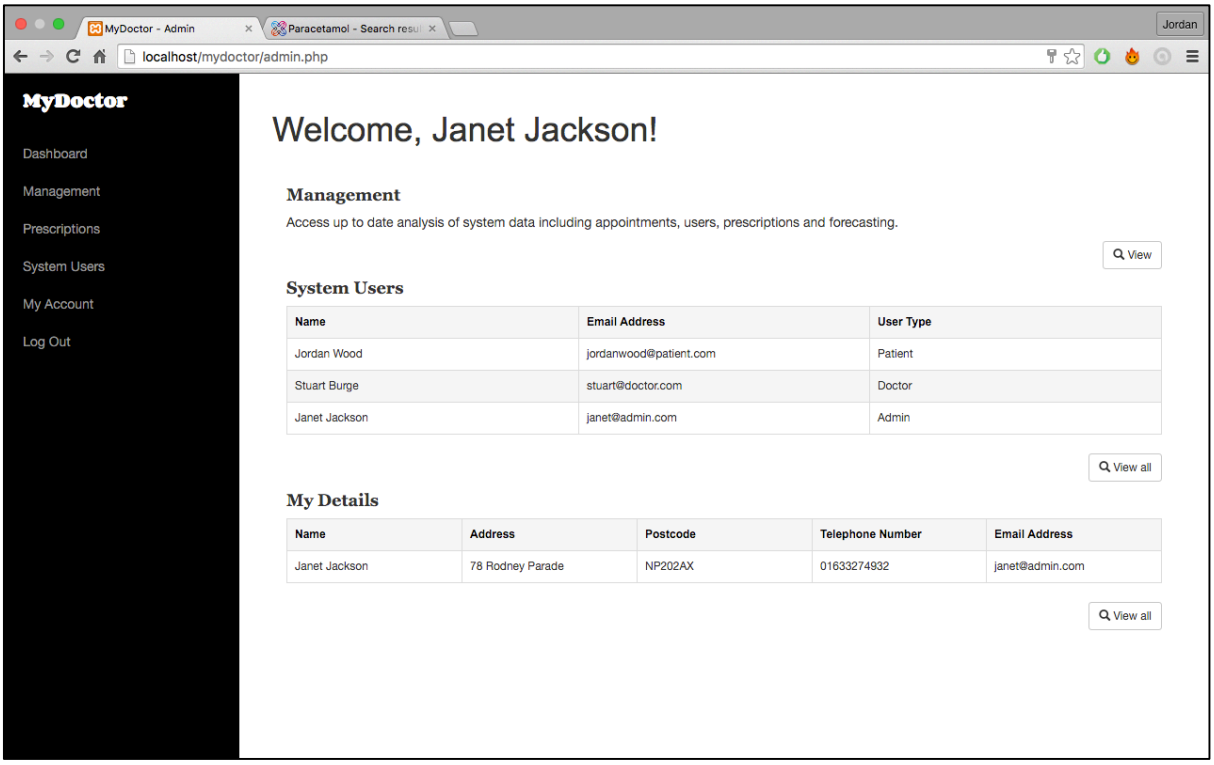
Doctor My Account



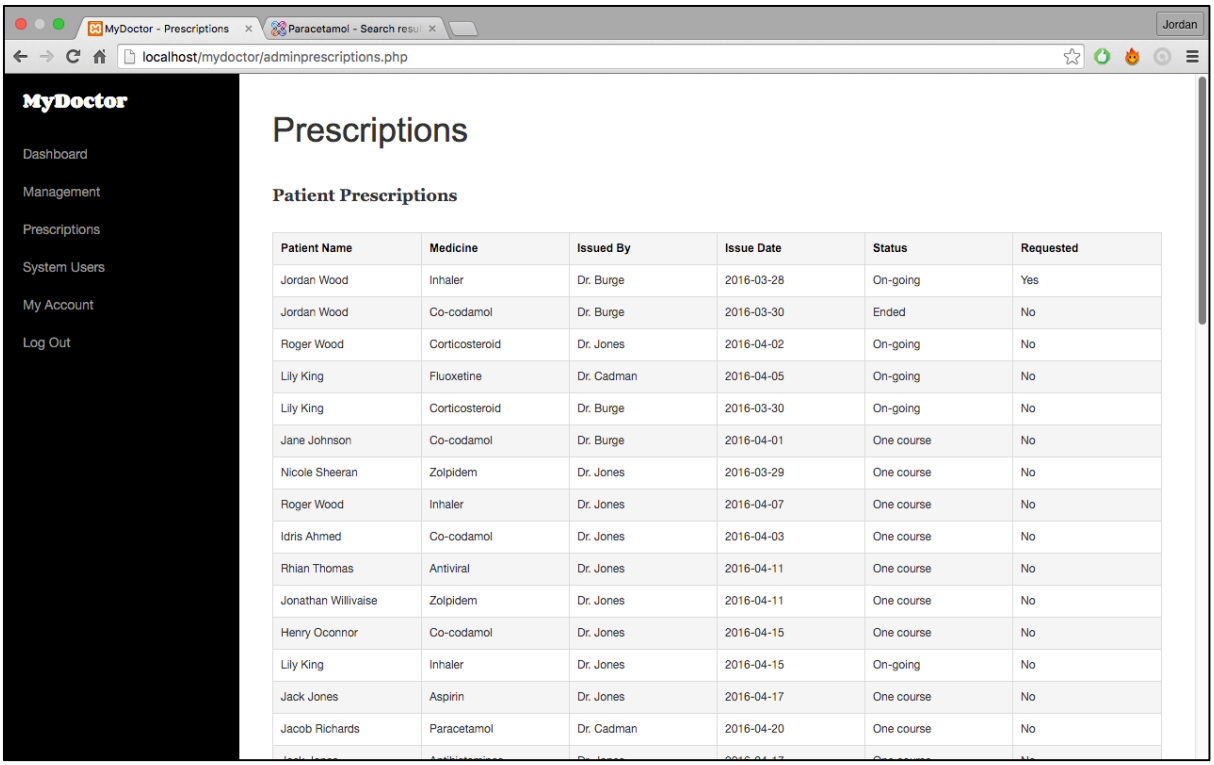
Doctor Edit Account



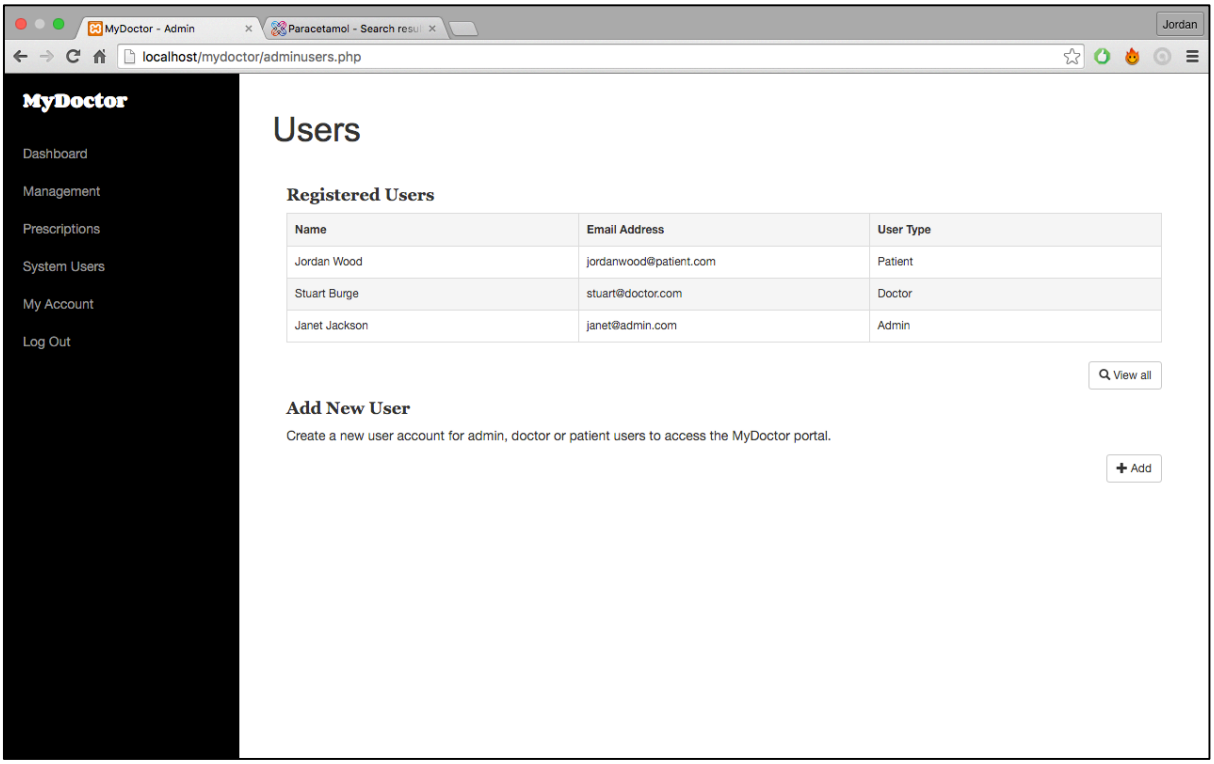
Doctor Edit Personal Details



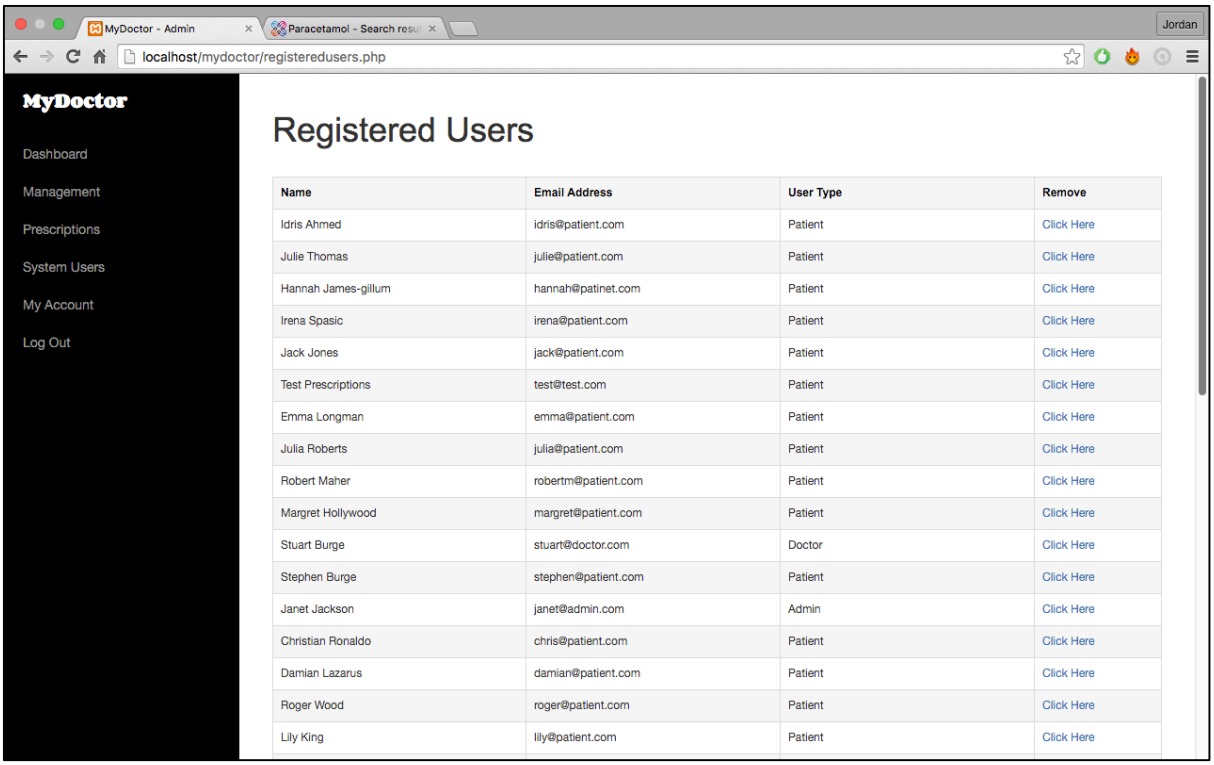
Admin Dashboard



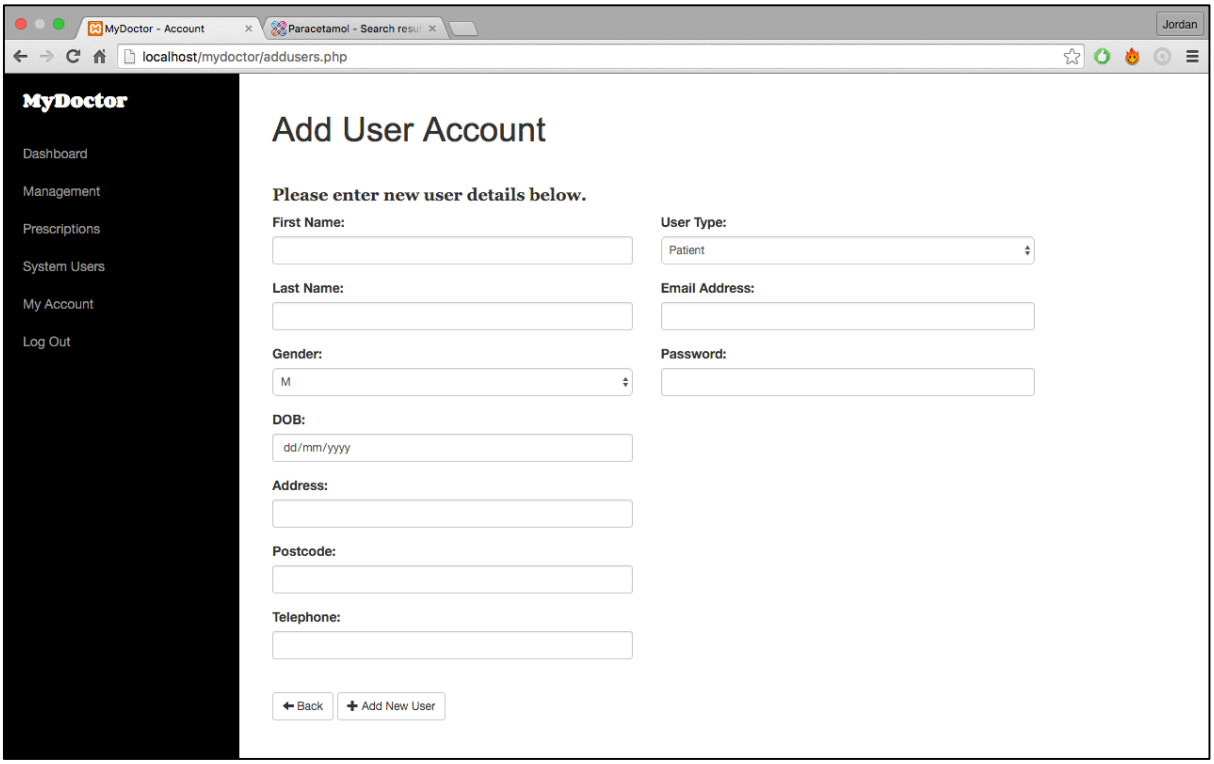
Admin Prescriptions



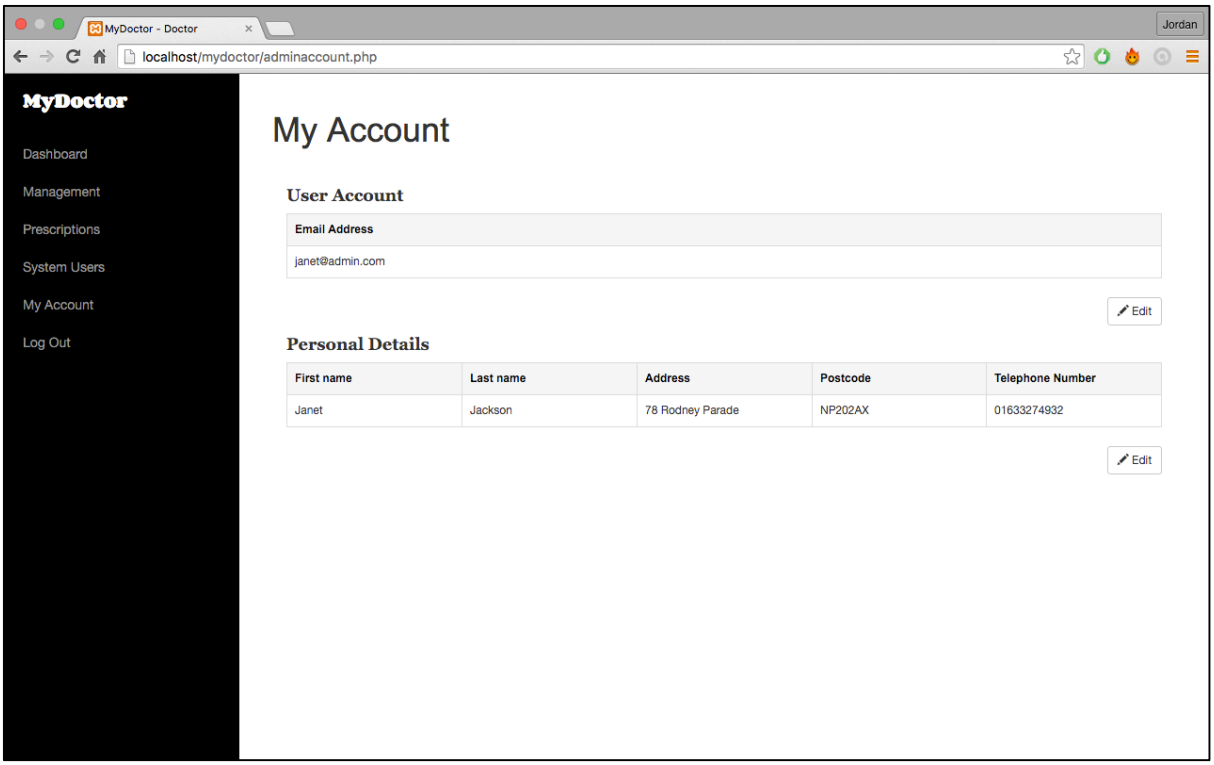
Admin Users



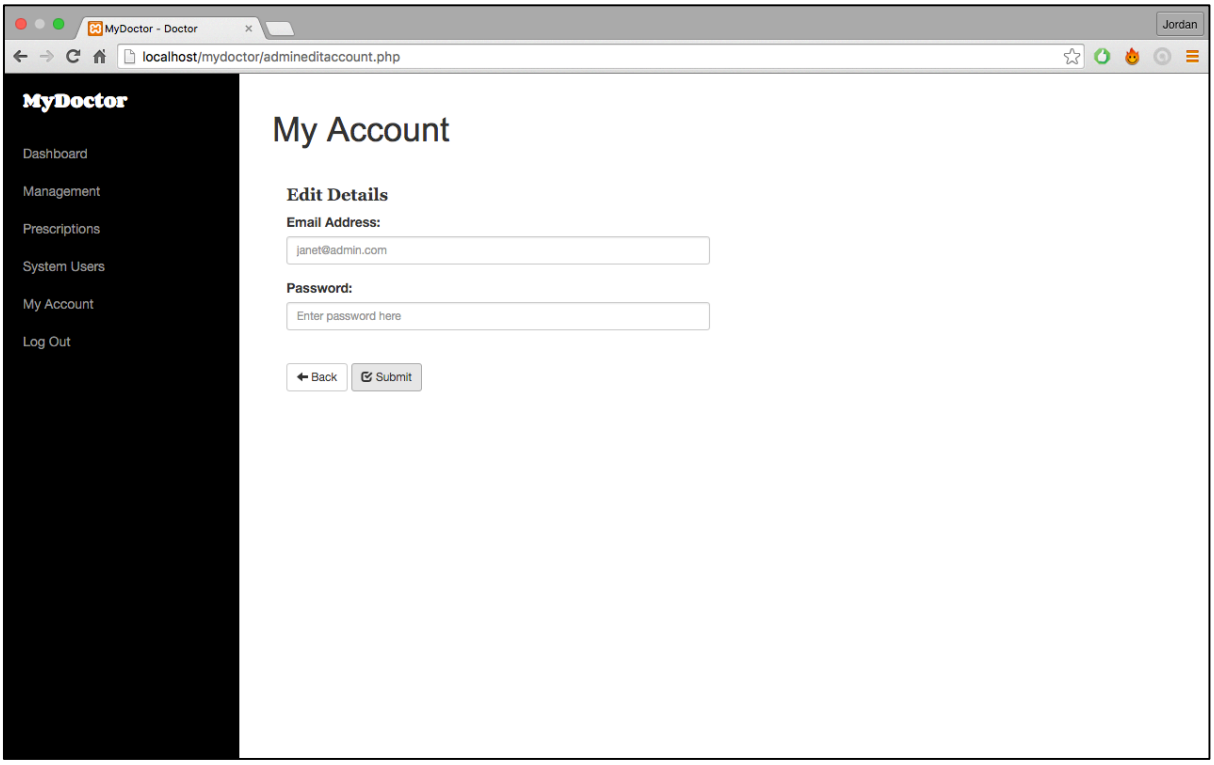
Admin Registered Users



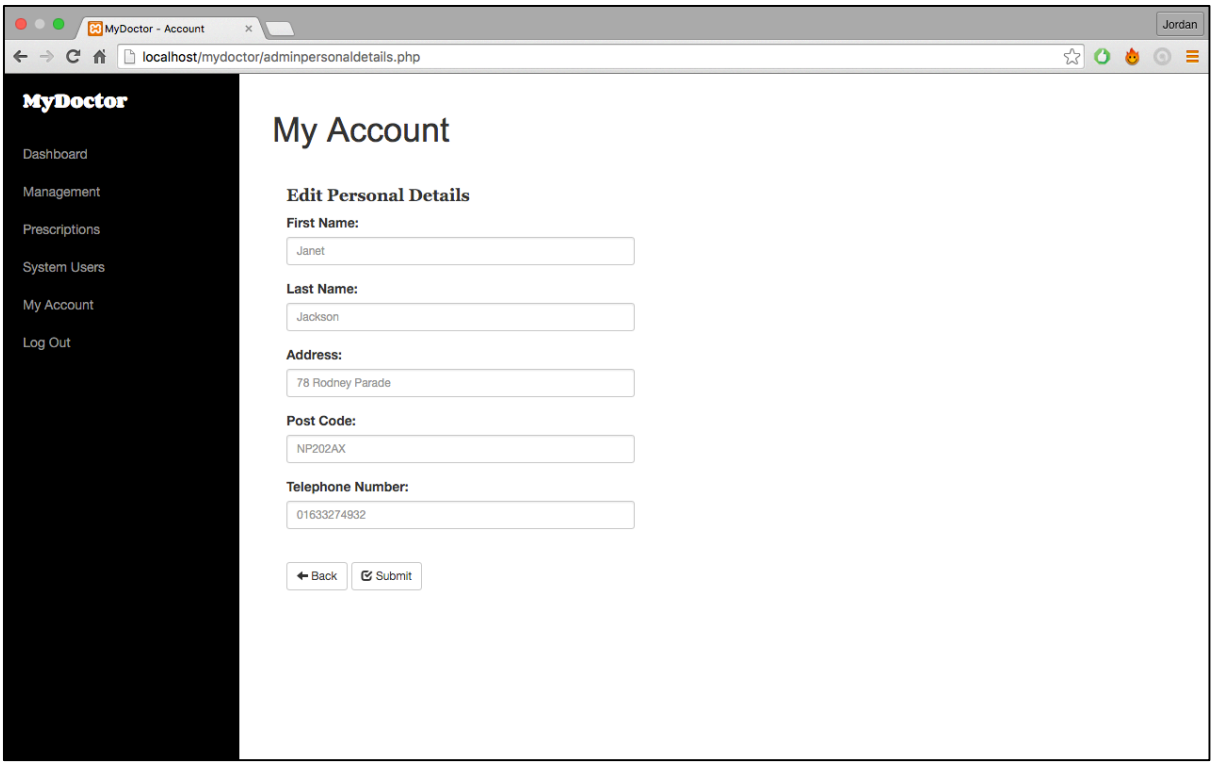
Admin Add User Account



Admin My Account



Admin Edit Details



Admin Edit Personal Details

Testing

Test cases

Login & logout test cases

This section of test cases will be focused on logging into the web application and involves all three user types Patient, Doctor and Admin.

Test ID: 1	**Purpose:** *User can login to the system*		
Environment:	Web application		
Pre-conditions:	User has a registered user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Enter a valid email address into email address field	Email address is shown in the email address input field	The email address is shown in the email address input field	PASS
2: Enter a valid password into password field	The entered password is shown encrypted for security purposes	The password is shown encrypted in the password input field	PASS
3: Click “Login” button	The user is redirected to their corresponding dashboard	The user is redirected to their dashboard	PASS
Comments:	Screenshots in appendix (test case 1)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 1.1	**Purpose:** *Check unauthorised user details are denied access*		
Environment:	Web application		
Pre-conditions:	None		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Enter an invalid email address into email address field	Email address is shown in the email address input field	The email address is shown in the email address input field	PASS
2: Enter an invalid password into password field	The entered password is shown encrypted for security purposes	The password is shown encrypted in the password input field	PASS
3: Click “Login” button	The user is redirected to check login page, displaying error message “Incorrect login details! Please try again.”	The user is redirected to check login page which displays error message “Incorrect login details! Please try again.”	PASS
Comments:	Screenshots in appendix (test case 2)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 1.2	**Purpose:** *User can log their account out of the system*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: User locates and selects “logout” button	User is redirected to homepage and account is logged out	User is redirected to homepage and their user account logged out of system	PASS
Comments:			
Author: Jordan Wood		**Date:** 18/04/2016	

Update user account & personal details test cases

This section of test cases will focus on the updating of user account and personal details. It again involves all three user types Patient, Doctor and Admin.

Test ID: 2	**Purpose:** *User can modify their user account details*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered user account and has navigated to edit user account details section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Enter a email address into email address input field	Email address is shown in the email address input field	The email address is shown in the email address input field	PASS
2: Enter a password into password input field	The entered password is shown encrypted for security purposes	The password is shown encrypted in the password input field	PASS
3: Click “Submit” button	The user’s details are submitted and their database record is updated. A success message shows “Success! Your account details have been updated!”	The details submitted update the users account record in the database and success message “Success! Your account details have been updated!” is displayed	PASS
Comments:	Screenshots in appendix (test case 2)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 2.1	**Purpose:** *User can't submit blank email address and password data when updating their account*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered user account and has navigated to edit user account details section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Click "Submit" button without filling input boxes	Error message shown informing users "Sorry! Please fill all fields before selecting submit."	Error message shown informing users "Sorry! Please fill all fields before selecting submit."	PASS
Comments:	Screenshots in appendix (test case 2.1)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 2.2	**Purpose:** *User can modify their personal details*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered user account and has navigated to edit personal details section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Enter first name into first name input field	First name is shown in the first name input field	The first name entered is shown in the first name input field	PASS
2: Enter last name into last name input field	Last name is shown in the last name input field	The last name entered is shown in the last name input field	PASS
3: Enter address into address input field	Email address is shown in the email address input field	The email address entered is shown in the email address input field	PASS
4: Enter post code into post code input field	Post code is shown in the post code input field	The post code entered is shown in the post code input field	PASS
5: Enter telephone into post code input field	Telephone is shown in telephone input field	The telephone entered is shown in the telephone input field	PASS
3: Click "Submit" button	The user's personal details are submitted and their database record is updated. A success message shows "Success! Your personal details have been updated!"	The details submitted update the users account record in the database success message "Success! Your account details have been updated!" is displayed	PASS
Comments:	Screenshots in appendix (test case 2.2)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 2.3	**Purpose:** *User can't submit blank input fields when updating their personal details*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered user account and has navigated to edit user account details section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Click "Submit" button without filling input boxes	Error message shown informing users "Sorry! Please fill required field before selecting submit."	Error message shown informing users "Sorry! Please fill required field before selecting submit."	PASS
Comments:	Screenshots in appendix (test case 2.3)		
Author: Jordan Wood		**Date:** 18/04/2016	

Patient Test Cases

This section of test cases will be focused on Patient user type features.

Test ID: 3	**Purpose:** *User can view their appointment history*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account and has navigated to Appointment section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "View all" button on appointments page	User is redirected to current appointments page and displayed their appointment history	User is redirected to current appointments page, displaying their appointment history. Matching database records	PASS
Comments:	Screenshots in appendix (test case 3)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.1	**Purpose:** *User can arrange a new appointment with their doctor*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account and has navigated to Appointment section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "Arrange" button on appointments page	User is redirected to arrange appointments page and displayed input form and their corresponding doctor name	User redirected to arrange appointments page, displaying arrangement input form and patients doctor	PASS

2: Enter a date manually or via calendar drop down	Chosen date is shown in the date input field	Chosen date is shown in the date input field	PASS
3: Select "View Times" button	Time and reason input fields are displayed	Time and reason input fields are accessible to user	PASS
4: Select an available time from drop down menu	Chosen time is shown in time input field	Chosen time is shown in time input field	PASS
5: Enter text to Reason input field	Reason text is shown in input field	Reason text is shown in input field	PASS
6: Click "Submit" button	Appointment arrange details are submitted to the system database and success message shows "Success! Your appointment request details have been processed"	Inputted appointment details were stored in the system database and and success message shows "Success! Your appointment request details have been processed"	PASS
Comments:	Screenshots in appendix (test case 3.1)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.2	**Purpose:** *User cannot select a date earlier than todays*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account and has navigated to arrange appointment section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "View times" button after entering a date earlier than todays	User is displayed an error message	User is displayed an error message informing them that the value entered must be (todays date) or later.	PASS
Comments:	Screenshots in appendix (test case 3.2)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.3	**Purpose:** *User cannot select taken appointment times*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account, entered a date and clicked "View times" button within arrange appointments section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select the time input dropdown menu	User is displayed a list of appointment times, with those already taken hidden	User is displayed a selection of appointment times within a	PASS

		dropdown menu, minus those times already booked	
Comments:	Screenshots in appendix (test case 3.3)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.4	**Purpose:** *User can view their problem history*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account and have navigated to medical records section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate problems section and select “Full history” button	User is displayed a table containing history of their problems	User is displayed a table containing history of their problems, matching records within system database	PASS
Comments:	Screenshots in appendix (test case 3.4)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.5	**Purpose:** *User can view their medication history*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account and have navigated to medical records section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate medication section and select “Full history” button	User is displayed a table containing history of their medication	User is displayed a table containing history of their medication, matching records within system database	PASS
Comments:	Screenshots in appendix (test case 3.5)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.6	**Purpose:** *User can view their test result history*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account and have navigated to medical records section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate test results section and select “Full history” button	User is displayed a table containing history of their test results	User is displayed a table containing history of their test results, matching records within system database	PASS
Comments:	Screenshots in appendix (test case 3.6)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.7	**Purpose:** *User can view their allergy history*		
Environment:	Web application		
Pre-conditions:	User is logged into the system with a registered user patient account and have navigated to medical records section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate allergies section and select “Full history” button	User is displayed a table containing history of their allergies	User is displayed a table containing history of their allergies, matching records within system database	PASS
Comments:	Screenshots in appendix (test case 3.7)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.8	**Purpose:** *User can view their prescription history*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered patient user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select “Appointments” tab within navigation bar	User is redirected to prescriptions page, displaying a table of their prescription history	User is redirected to prescriptions page, and can view a table of their prescription history, matching database records	PASS
Comments:	Screenshots in appendix (test case 3.8)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 3.9	**Purpose:** *User can request a repeat prescription of medication*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered patient user account and has navigated to prescriptions page		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate Request Repeat column and select “Click Here”	Prescription request is updated within prescription database record and column changed to “Updated”	Prescription request is updated within prescription database record and column changed showing “Updated”	PASS
Comments:	Screenshots in appendix (test case 3.9)		
Author: Jordan Wood		**Date:** 18/04/2016	

Doctor test cases

This section of test cases will be focused on Doctor user type features.

Test ID: 4	**Purpose:** *User can view their appointments*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account and has navigated to the appointments section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select “View calendar” button	User is redirected to doctor appointment page, displaying all of their appointments	User is redirected to their appointments page, displaying all of their scheduled and past appointment from database records in calendar format	PASS
Comments:	Screenshots in appendix (test case 4)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 4.1	**Purpose:** *User can update appointments*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account and has navigated to the appointments section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select “View all” button	User is redirected to doctor update appointments page, displaying all of their appointments	User is redirected to doctor update appointments page, which displays all of their appointments in table format	PASS
2: Locate and select “Update Appointment”	User is redirected to update page, providing an input form	User is redirected to update page that displays an input form for entering appointment update information	PASS
3: Enter time into Time In input field	Time entered is displayed within input field	Time entered is displayed within input field	PASS
4: Enter time into Time Out input field	Time entered is displayed within input field	Time entered is displayed within input field	PASS
5: Enter text into comments field	Text entered is displayed within input field	Text entered is displayed within input field	PASS
6: Select “Submit” button	Appointment record is updated in the database and success message shows “Success! Appointment record has	Appointment record is updated in the database and success message shows “Success! Appointment record has been updated”.	PASS

	been updated". Appointment status on appointments section is updated to "Updated" within update column	Appointment status on appointments section is updated to "Updated" within update column	
Alternative Step Number:	**Predicted outcome**	**Actual Outcome**	**Result**
1: Select "View calendar"	User is redirected to my calendar page showing appointments in calendar format	User is redirected to my calendar page which displays their appointments in calendar format	PASS
2: Locate and select an appointment that requires updating	User is redirected to appointment update page for that appointment and displayed input form for updated details	User is redirected to appointment update page for that appointment and displayed input form for updated details	PASS
Comments:	Screenshots in appendix (test case 4.1 & 4.1.1)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 4.2	**Purpose:** *User can view their patients*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "Patients" tab within navigation bar	User is redirected to my patients page and their patients are displayed	User is redirected to my patients page displaying all of their patient details	PASS
Comments:	Screenshots in appendix (test case 4.2)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 4.3	**Purpose:** *User can view individual patient medical record*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account and has navigated to the patients		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate and select "View" within Medical Record of required patient information	User is redirected to corresponding patients medical record	User is redirected to corresponding patients medical record showing problem, medication, test and allergy history	PASS
Comments:	Screenshots in appendix (test case 4.3)		

Author: Jordan Wood	**Date:** 18/04/2016

Test ID: 4.4	**Purpose:** *User cannot submit appointment update without completing all fields*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account and has navigated to the update appointments page		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "Submit" button without entering details	User is shown and error message informing them "Sorry! Please fill all fields before selecting submit"	User is shown and error message informing them "Sorry! Please fill all fields before selecting submit"	PASS
Comments:	Screenshots in appendix (test case 4.4)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 4.5	**Purpose:** *User can view their patient prescription history*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account and has navigated to the prescriptions section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "View all" button	User is redirected to patient prescriptions page and displayed all records of prescriptions prescribed by them	User is redirected to patient prescriptions page and displayed all records of prescriptions prescribed by them	PASS
Comments:	Screenshots in appendix (test case 4.5)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 4.6	**Purpose:** *User can prescribe patients medication*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account and has navigated to the prescriptions section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "Prescribe" button	User is redirected to patient Prescribe Medication page and displayed input form and medication search form	User is redirected to Patient Medication page and is displayed input form for entering prescription details and a medication search form	PASS
2: Enter patient id into Patient ID input field	Entered patient id number is displayed Patient ID input field	Entered patient id number is displayed Patient ID input field	PASS

3: Enter medicine using Medicine drop down menu	Drop down menu used to enter required medicine and selection is displayed in Medicine input field	Drop down menu used to enter required medicine and selection is displayed in Medicine input field	PASS
4: Enter status using Status drop down menu	Drop down menu used to enter required status and selection is displayed in Status input field	Drop down menu used to enter required status and selection is displayed in Status input field	PASS
5: Select "Prescribe" button	User is shown success message on submission "Success! Prescription has been recorded"	User is shown success message on submission "Success! Prescription has been recorded"	PASS
Comments:	Screenshots in appendix (test case 4.6)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 4.7	**Purpose:** *User cannot submit incomplete prescription*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "Patients" tab within navigation bar	User is redirected to my patients page and their patients are displayed	User is redirected to my patients page displaying all of their patient details	PASS
Comments:	Screenshots in appendix (test case 4.7)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 4.8	**Purpose:** *User can research medicines*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered doctor user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select "Medicines" tab within navigation bar	User is redirected to medicines page and search input is displayed	User is redirected to medicines page and displayed search input	PASS
2: Enter search term (text)	Input text is displayed within search input bar	Input text is shown within search input field	PASS
3: Select "Search!" button	A new tab opens within the users web browser displaying search results for their search term on drugs.com	A new web browser tab opens displaying search results for the entered search term on drugs.com	PASS

Alternative Pre-conditions:	User is logged in with a registered doctor user account and has navigated to prescribe medication page		
Alternative Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate search input field and enter required search term	Input text is displayed within search input bar	Input text is shown within search input field	PASS
2: Select “Search!” button	A new tab opens within the users web browser displaying search results for their search term on drugs.com	A new tab opens within the users web browser displaying search results for their search term on drugs.com	PASS
Comments:	Screenshots in appendix (test case 4.8 & 4.8.1)		
Author: Jordan Wood		**Date:** 18/04/2016	

Admin test cases

This section of test cases will be focused on Admin user type features.

Test ID: 5	**Purpose:** *User can view all prescriptions*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered admin user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Select “Prescriptions” tab within navigation bar	User is redirected to prescriptions page displaying all prescriptions	User is redirected to prescriptions page which displays history of all prescriptions between doctors and patients (matching database)	PASS
Comments:	Screenshots in appendix (test case 5)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 5.1	**Purpose:** *User can view all registered system users*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered admin user account and has navigated to the system users section		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate Registered Users section and select “View all” button	User is redirected to registered users page and can view all registered	User is redirected to registered users page and can view all registered users	PASS

	users accounts, matching database records	accounts, matching database records	
Comments:	Screenshots in appendix (test case 5.1)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 5.2	**Purpose:** *User can remove users from the system*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered admin user account and has navigated to the registered users page		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate the user to remove and select “Click Here” within the remove column of that record	A warning message is shown “Warning! You are about to remove a user, please click here to continue with removal.”	Warning message is shown stating “Warning! You are about to remove a user, please click here to continue with removal.”	PASS
2: Select “click here” within warning message	Removal process is continued and the user is removed from system database	Removal process continued and the user is removed from system database records	PASS
Comments:	Screenshots in appendix (test case 5.2)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 5.3	**Purpose:** *User can add users to the system*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered admin user account and has navigated to the system users page		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate the Add New User section and select “Add” button	User is redirected to Add User Account page and displayed an input form	User is redirected to correct page and displayed an input form requiring new user details	PASS
2: Enter text into First Name input field	Text is displayed in First Name input field	Text is displayed in First Name input field	PASS
3: Enter text into Last Name input field	Text is displayed in Last Name input field	Text is displayed in Last Name input field	PASS
4: Select gender using drop down menu to choose from “M” or “F”	Selection is displayed in Gender input field	Selection is displayed in Gender input field	PASS

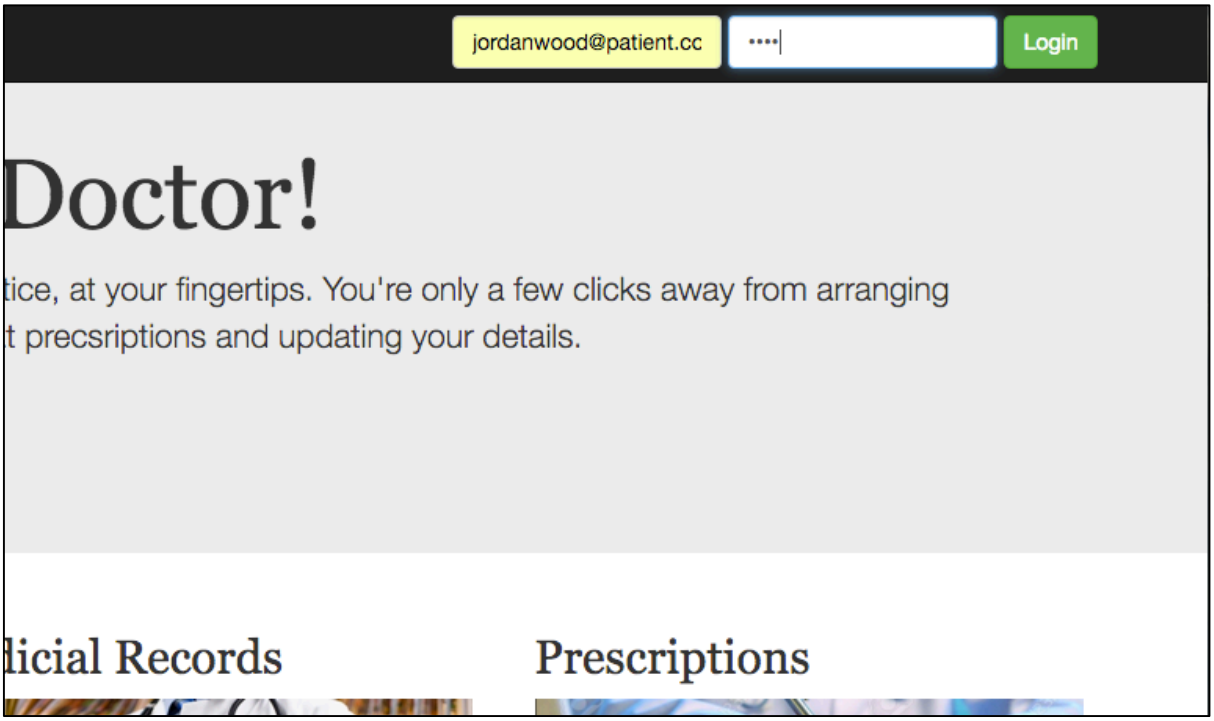
5: Enter DOB into DOB input field	Entered Date of Birth is displayed in DOB input field	Entered Date of Birth is displayed in DOB input field	PASS
6: Enter text into Address input field	Entered text is displayed in Address input field	Entered text is displayed in Address input field	PASS
7: Enter postcode into Postcode input field	Entered post code is displayed in Post Code input field	Entered post code is displayed in Post Code input field	PASS
8: Enter telephone number into Telephone input field	Entered telephone number is displayed in Telephone input field	Entered telephone number is displayed in Telephone input field	PASS
9: Select user type using drop down menu to choose from “Patient”, “Doctor” or “Admin”	Selection is displayed in User Type input field	Selection is displayed in User Type input field	PASS
10: Enter email address into Email Address input field	Entered email address is displayed in Email Address input field	Entered email address is displayed in Email Address input field	PASS
11: Enter password into Password input box	The entered password is shown encrypted for security purposes	The password is shown encrypted in the password input field	PASS
12: Select “Add New User” button	A new user account record is added to the database and a success message shows “Success! A new account has been added!”	Database record was created and success message was shown	PASS
Comments:	Screenshots in appendix (test case 5.3)		
Author: Jordan Wood		**Date:** 18/04/2016	

Test ID: 5.4	**Purpose:** *User can access Management data*		
Environment:	Web application		
Pre-conditions:	User is logged in with a registered admin user account		
Step Number:	**Predicted outcome**	**Actual outcome**	**Result**
1: Locate and select “Management” tab within the navigation bar	User is redirected to Management page displaying various admin management data analysis features	User redirected to Management page that displays admin management data analysis features	PASS

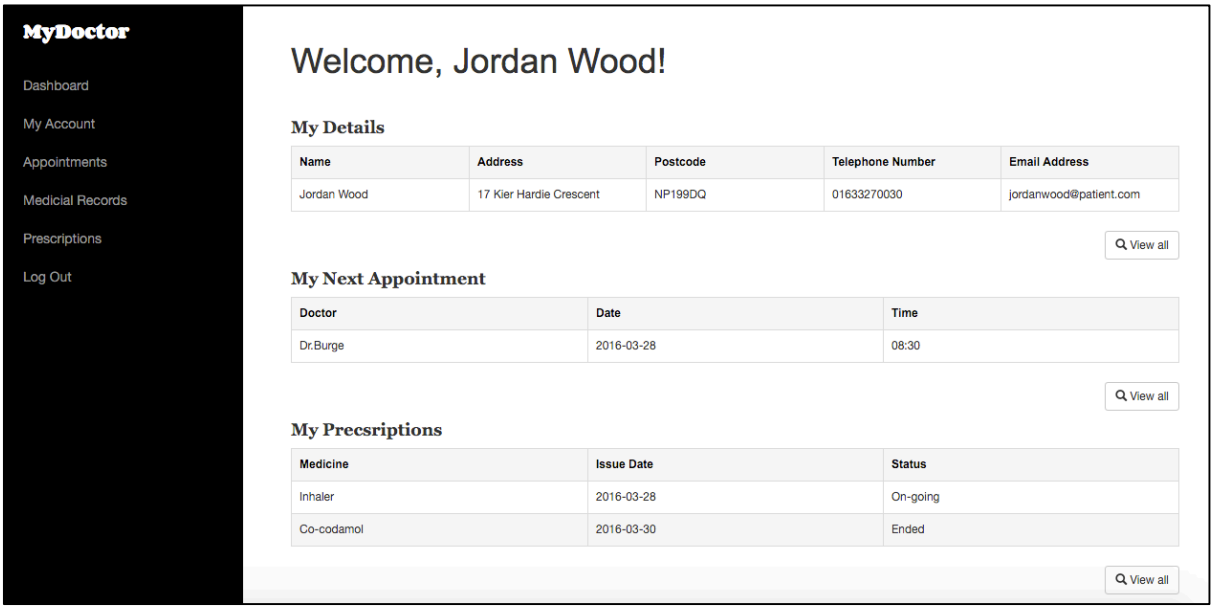
Comments:	• Screenshots in appendix (test case 4.4) • Due the size of the management data graphs and formulas carried out on this page, full testing would require a lot of individual test cases. Due to the time constraints of the project this cannot be done. When completing the management section, formula's and data analysis results were checked by me throughout the process. Instead of carrying out test cases I will identify the tests that should be carried out in the future: - 1. Average wait time per week calculations 2. Number of patients count 3. Average appointment length per week calculations 4. Number of appointments per week count 5. Number of appointments this week & last week (area graph) 6. Appointment count split this week (pie chart) 7. Average appointment waiting time this week & last week (bar chart) 8. Average wait per doctor calculations 9. Appointment forecast next week (line chart) 10. Prescriptions overall & per each doctor (histogram) 11. Comparison of doctor prescriptions (column chart)
Author: Jordan Wood	**Date:** 18/04/2016

Test case screenshots

Test ID 1 – User can login to the system

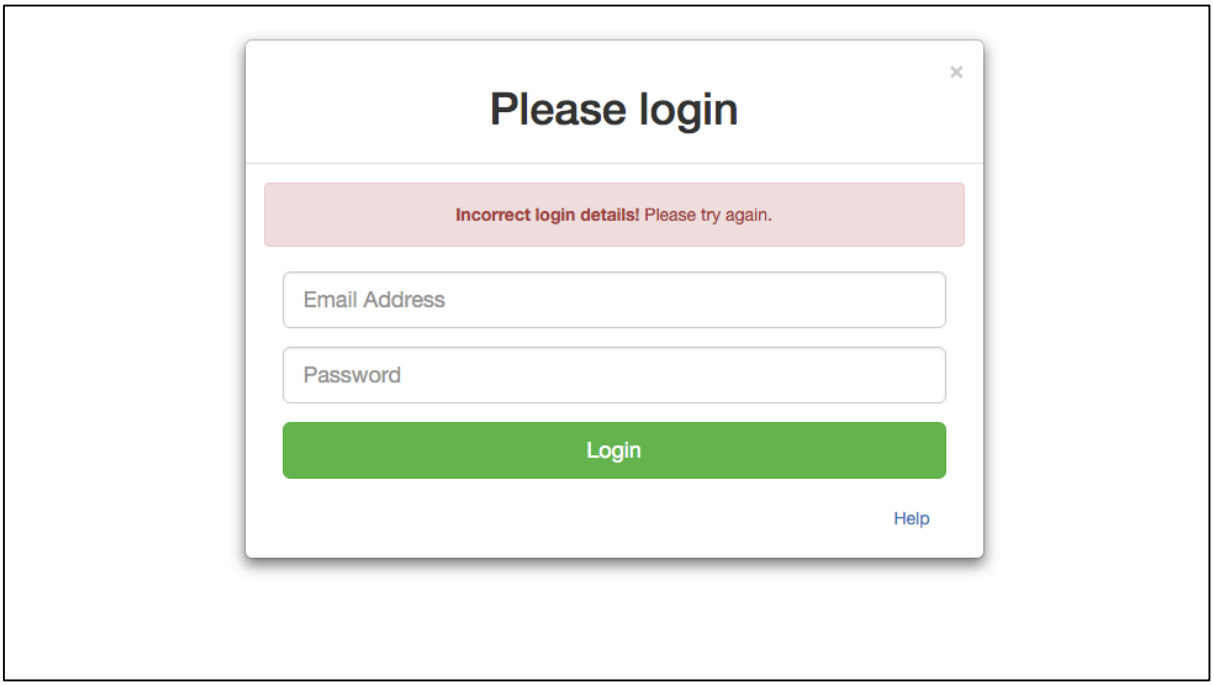


Username and password information within input boxes



User is redirected to their dashboard

Test ID 1.1 - Check unauthorised user details are denied access

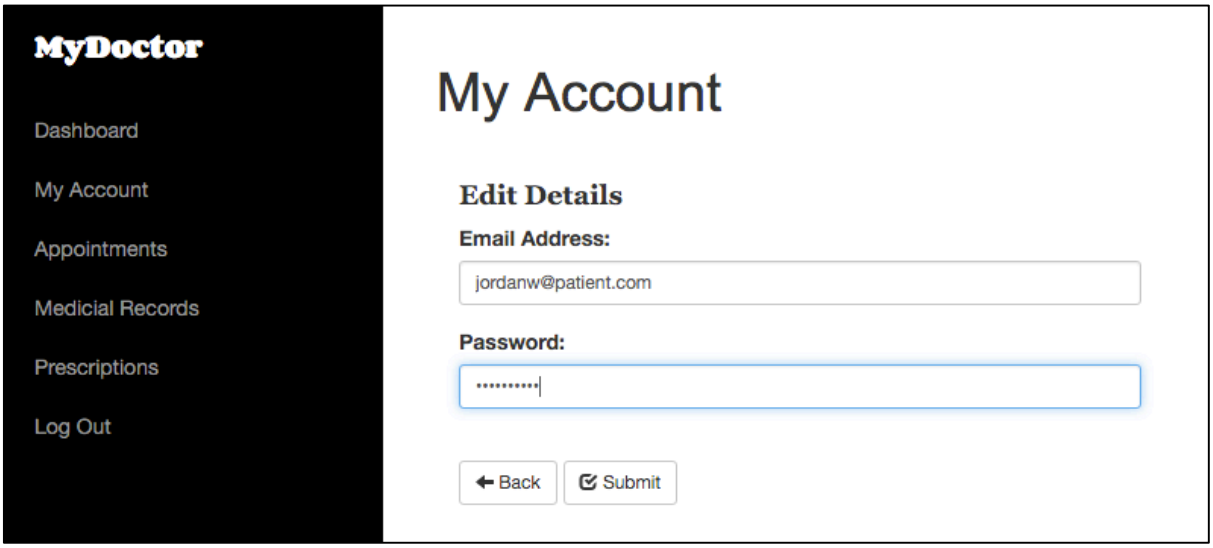


User is redirected to check login page, displaying error message "Incorrect login details! Please try again."

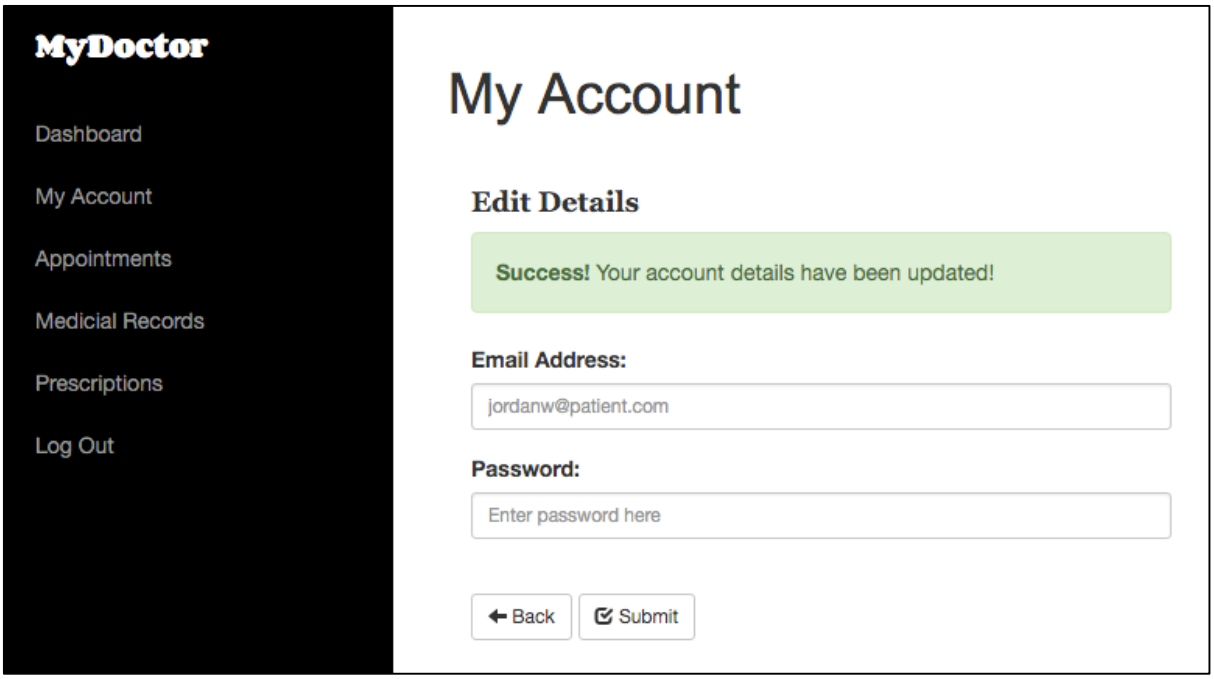
Test ID 2 – User can modify their user account details

UserID	FirstName	LastName	Gender	DOB	Address	Postcode	Telephone	Username	Password
1	Jordan	Wood	M	1993-08-06	17 Kier Hardie Crescent	NP199DQ	01633270030	jordanwood@patient.com	test

User database record before updating process



Entering and then submitting new email address & password

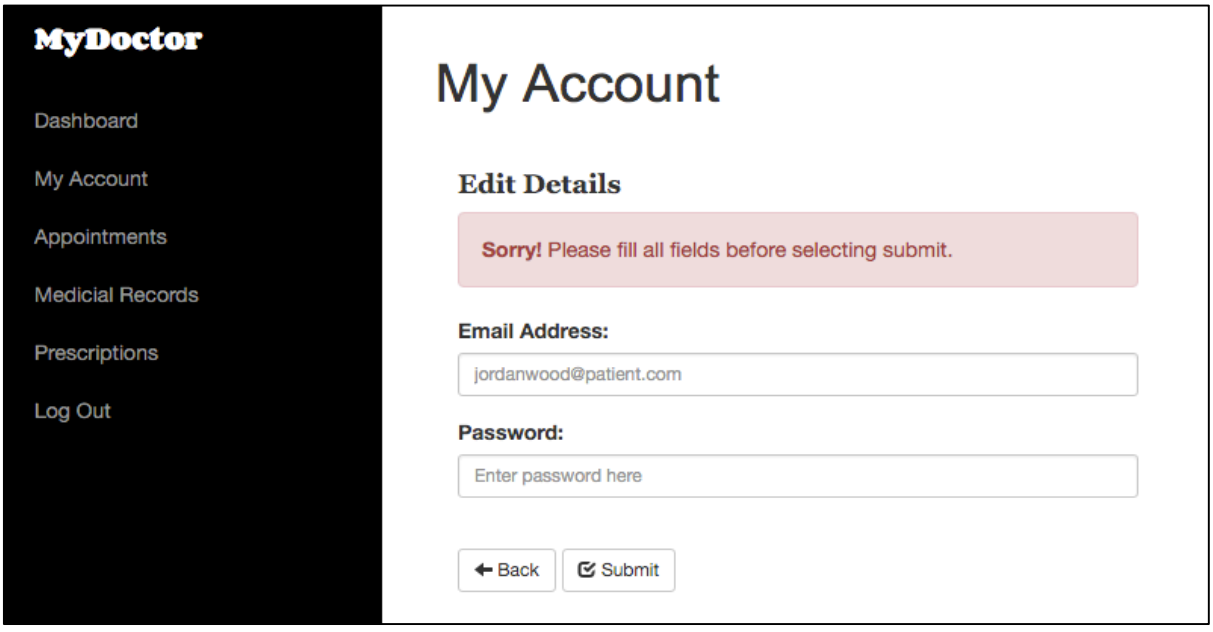


Submission success message displayed after Submit button selected

UserID	FirstName	LastName	Gender	DOB	Address	Postcode	Telephone	Username	Password
1	Jordan	Wood	M	1993-08-06	17 Kier Hardie Crescent	NP199DQ	01633270030	jordanw@patient.com	testcase

Updated record within database

Test ID 2.1 - User can't submit blank email address & password when updating account

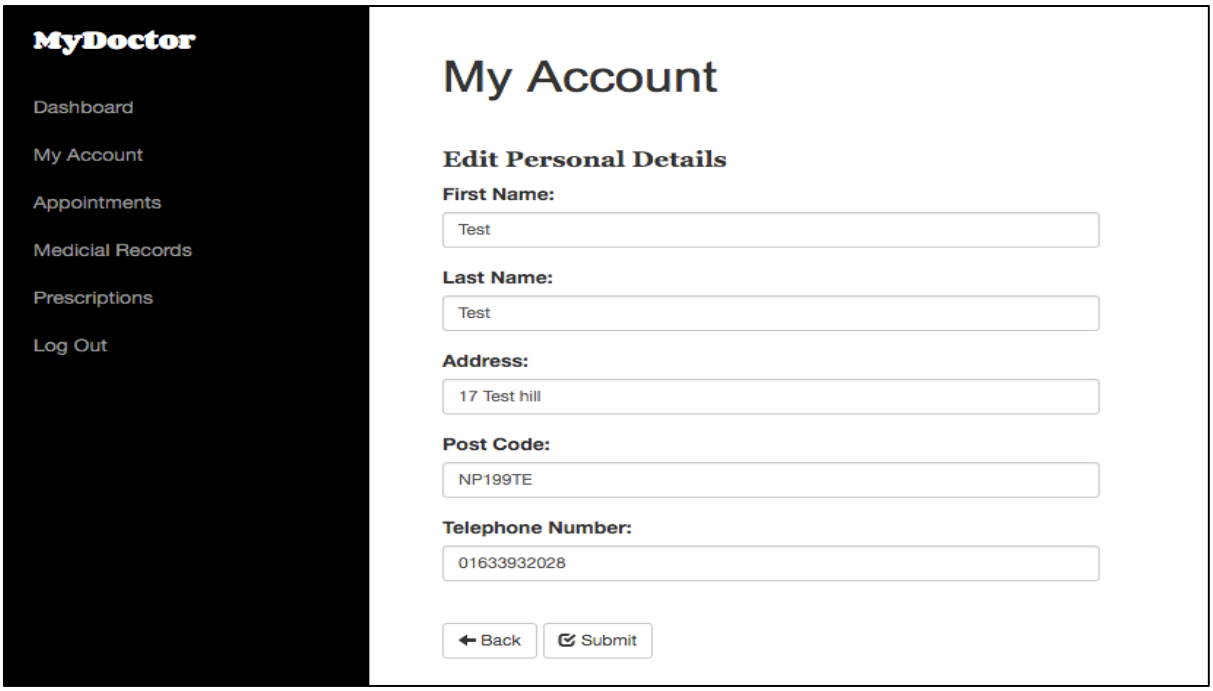


Error message is shown on submission of empty input fields

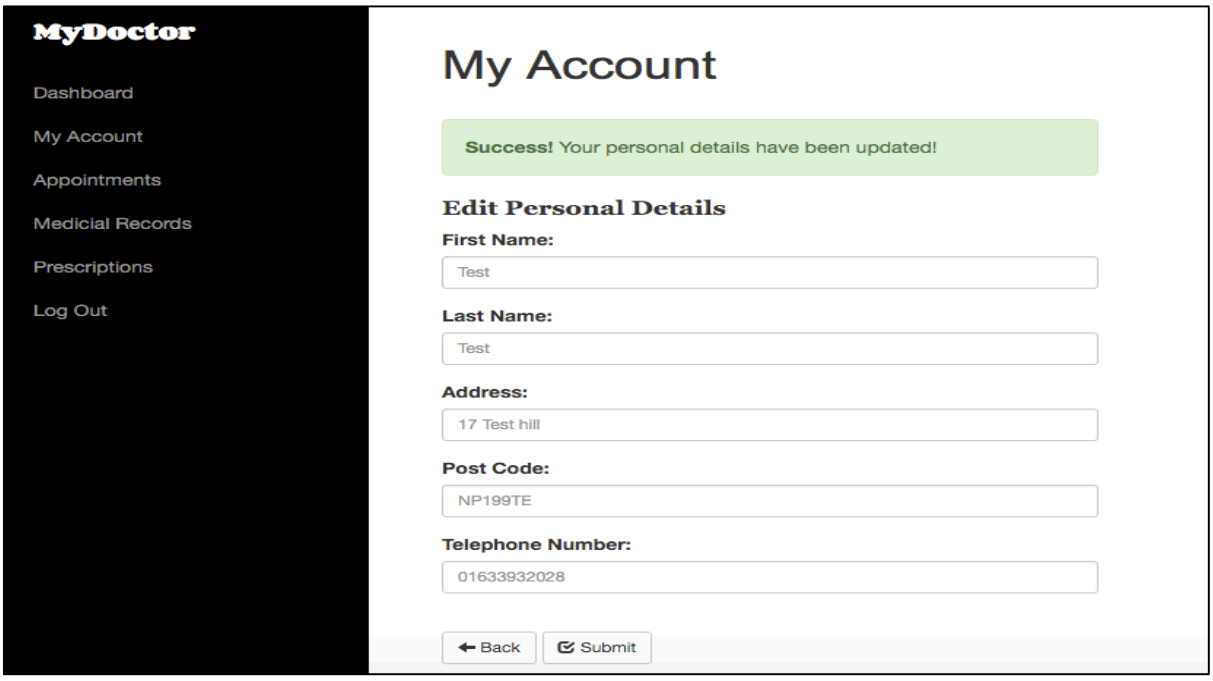
Test ID 2.2 - User can modify their personal details

UserID	FirstName	LastName	Gender	DOB	Address	Postcode	Telephone	Username	Password
1	Jordan	Wood	M	1993-08-06	17 Kier Hardie Crescent	NP199DQ	01633270030	jordanwood@patient.com	test

User database record before updating process



Entering and then submitting new personal details

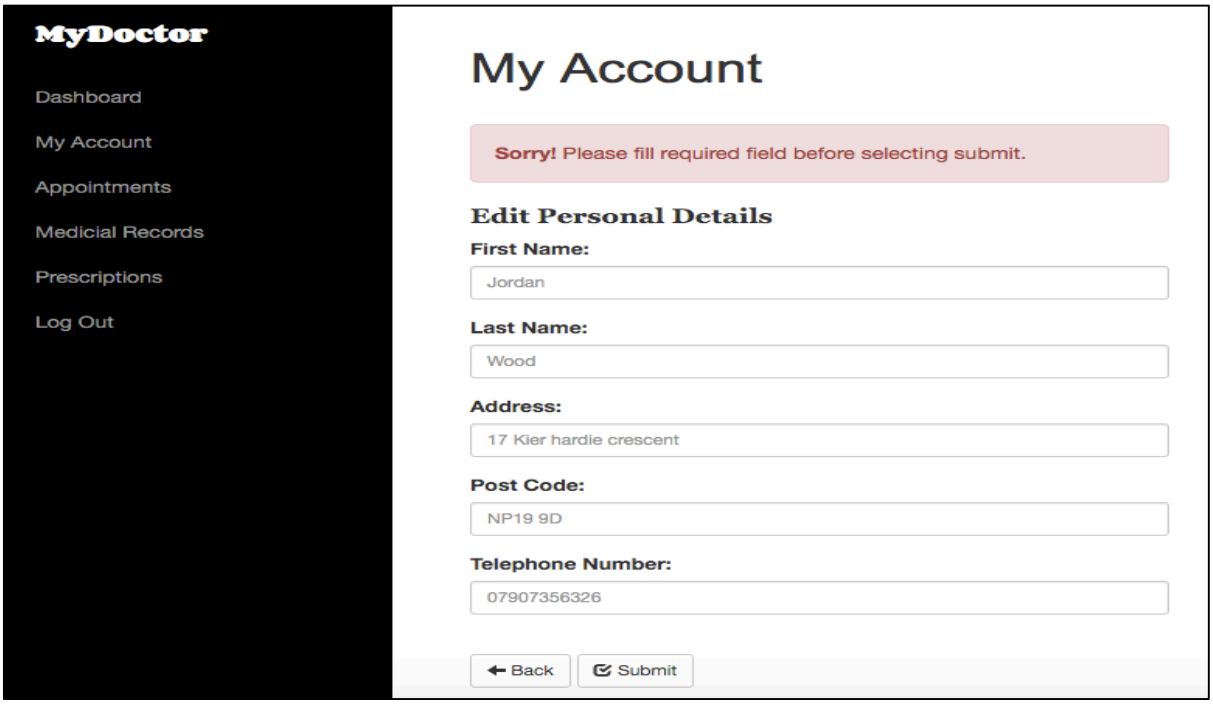


Submission success message displayed after Submit button selected

UserID	FirstName	LastName	Gender	DOB	Address	Postcode	Telephone	Username	Password
1	Test	Test	M	1993-08-06	17 Test hill	NP199TE	01633932028	jordanwood@patient.com	test

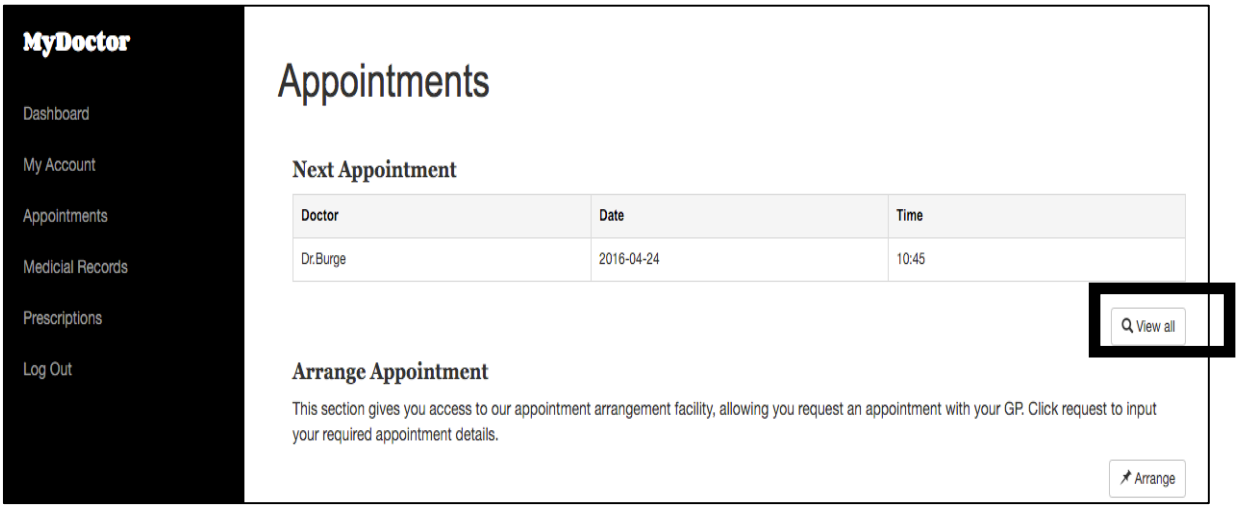
Updated record within database

Test ID 2.3 - User can't submit blank input fields when updating their personal details

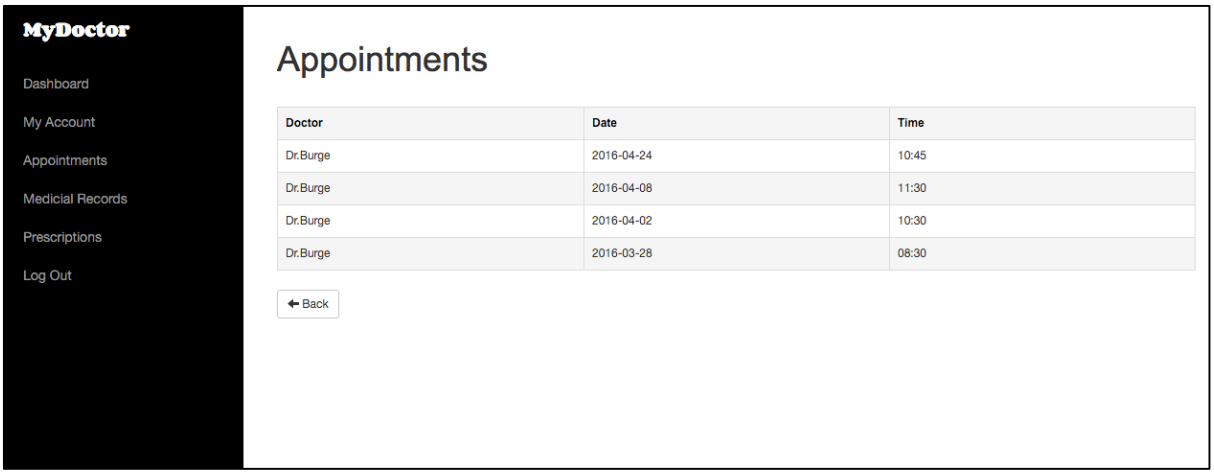


Error message is shown on submission of blank input fields

Test ID 3 - User can view their appointment history



Locate and select "View all" button within appointments section

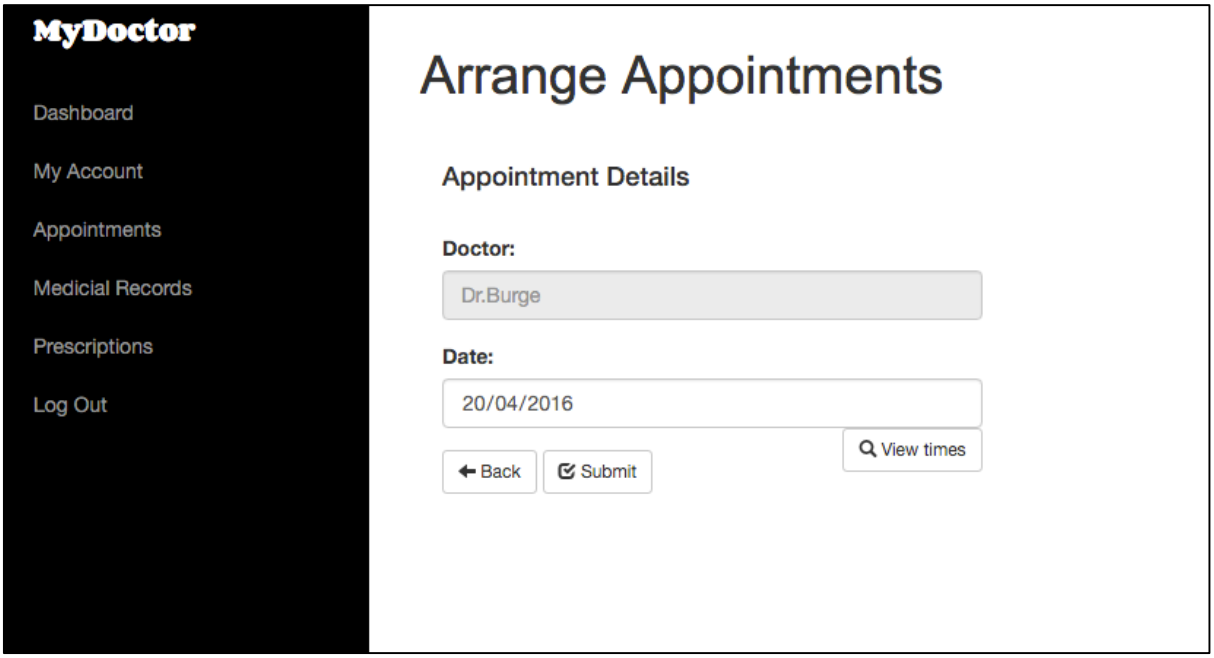


User is redirected to current appointments page and displayed their appointment history

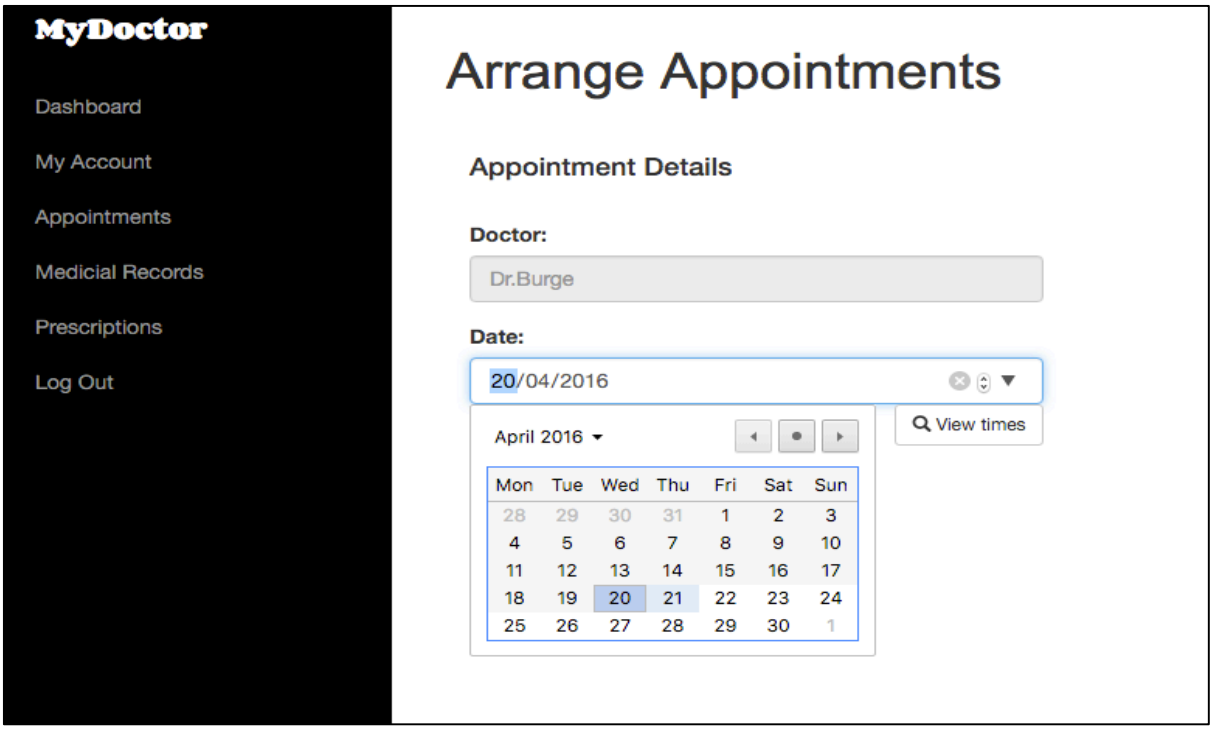
AppointmentID	PatientID	DoctorID	Date	Time	Reason	TimeIn	TimeOut	Comments
1	1	1	2016-03-28	08:30:00	Im having trouble breathing.	08:43:00	09:15:00	Patient showed signs of asthma so prescribed an as...
14	1	1	2016-04-02	10:30:00	test	10:30:00	10:37:00	test
28	1	1	2016-04-08	11:30:00	test	11:37:00	11:59:00	test
41	1	1	2016-04-24	10:45:00	test	11:04:00	11:11:00	test

Matching appointment records from database

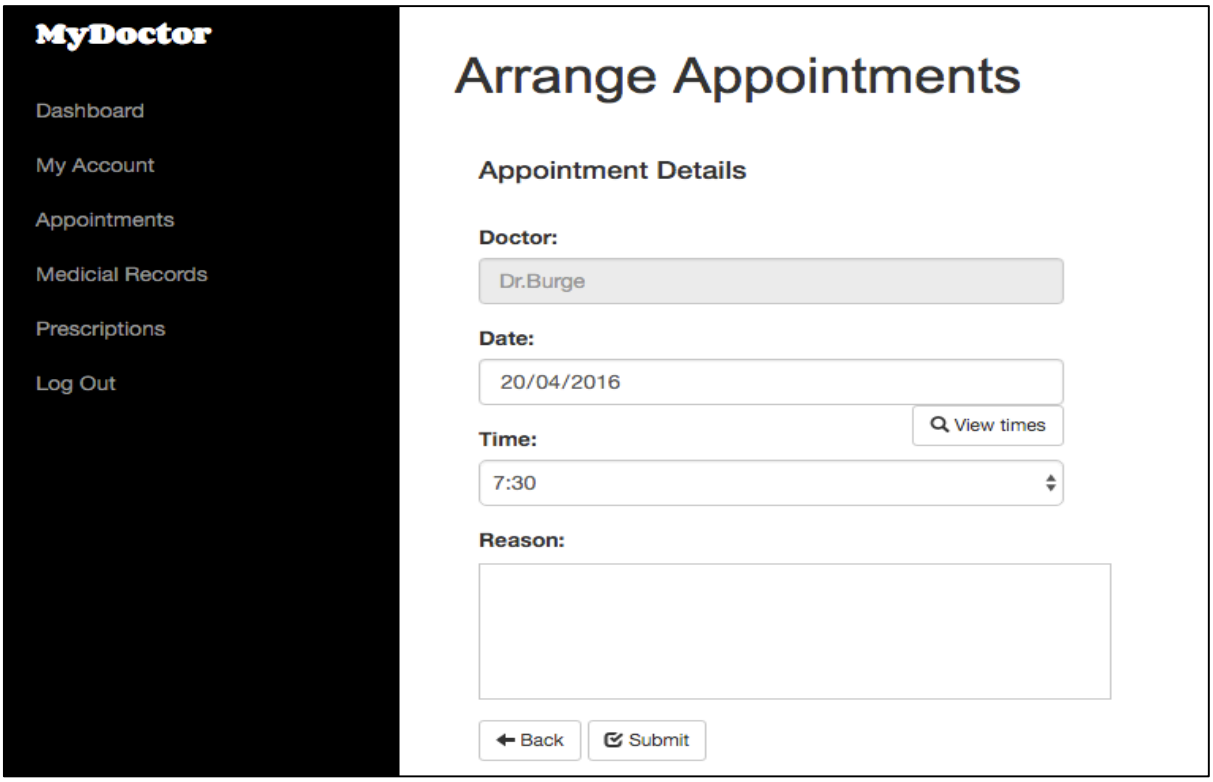
Test ID 3.1 - User can arrange a new appointment with their doctor



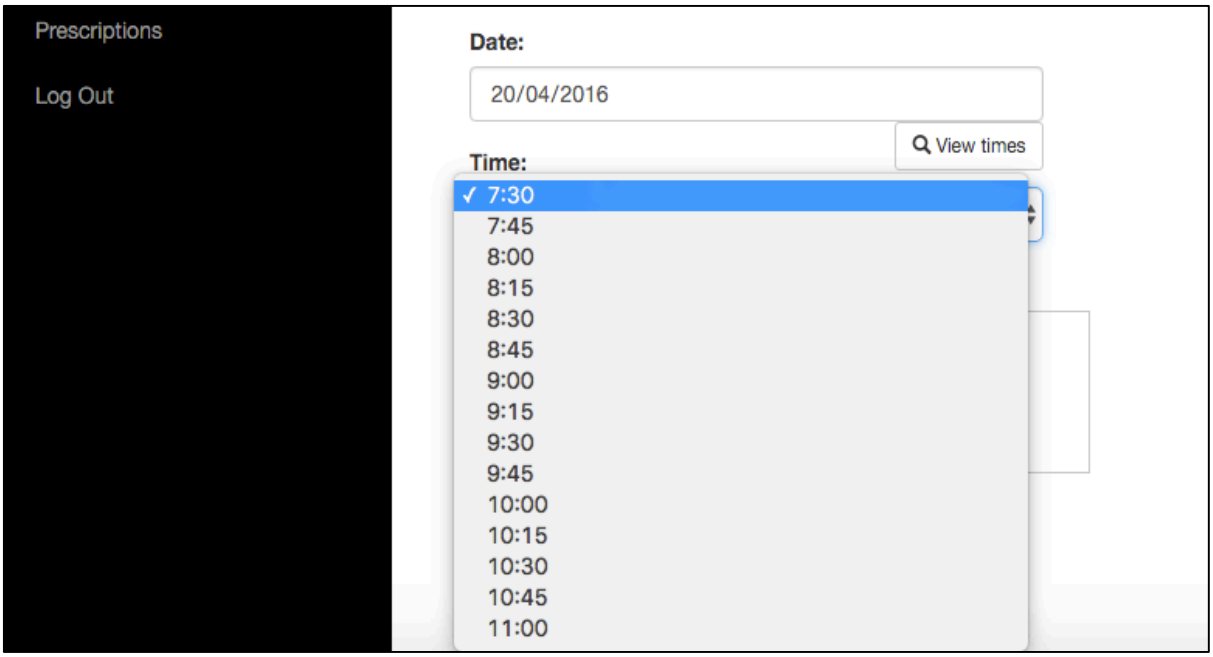
Appointments page displaying arrangement input form and patients doctor name



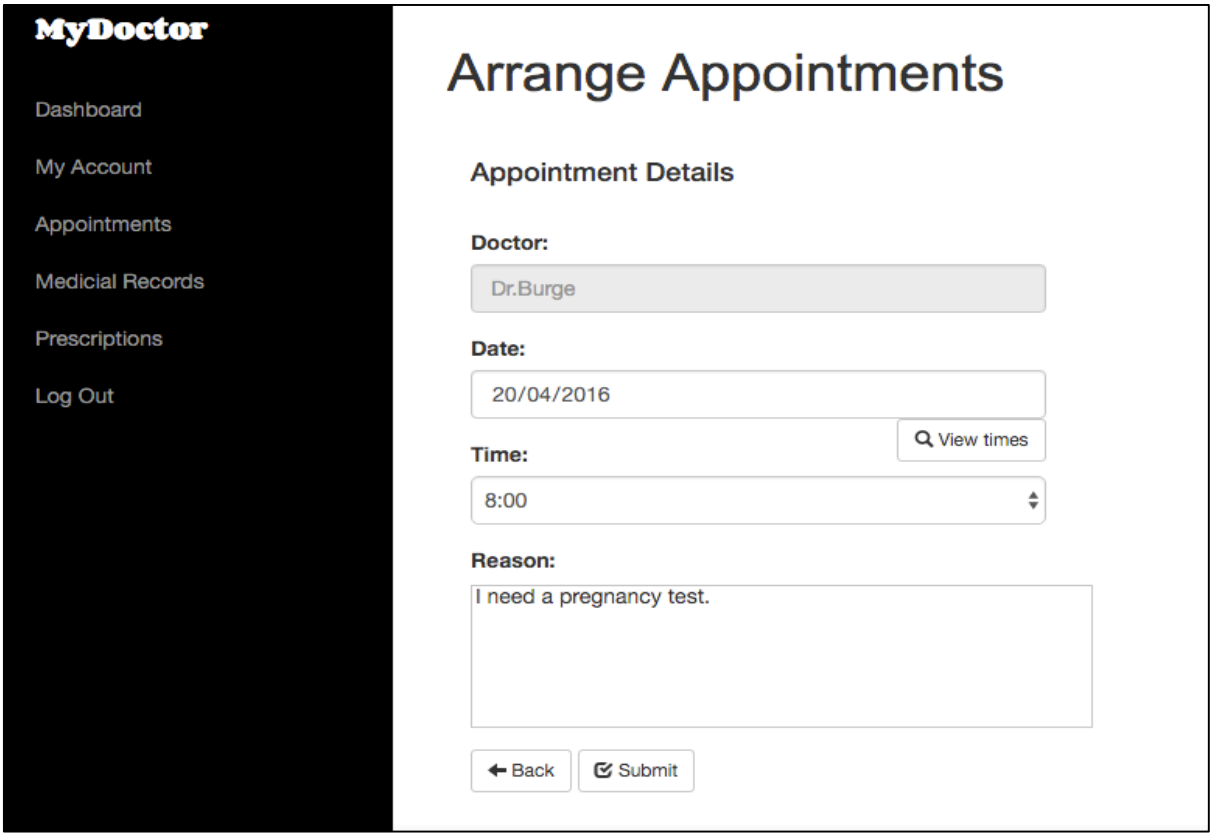
Input of selected appointment date using calendar format



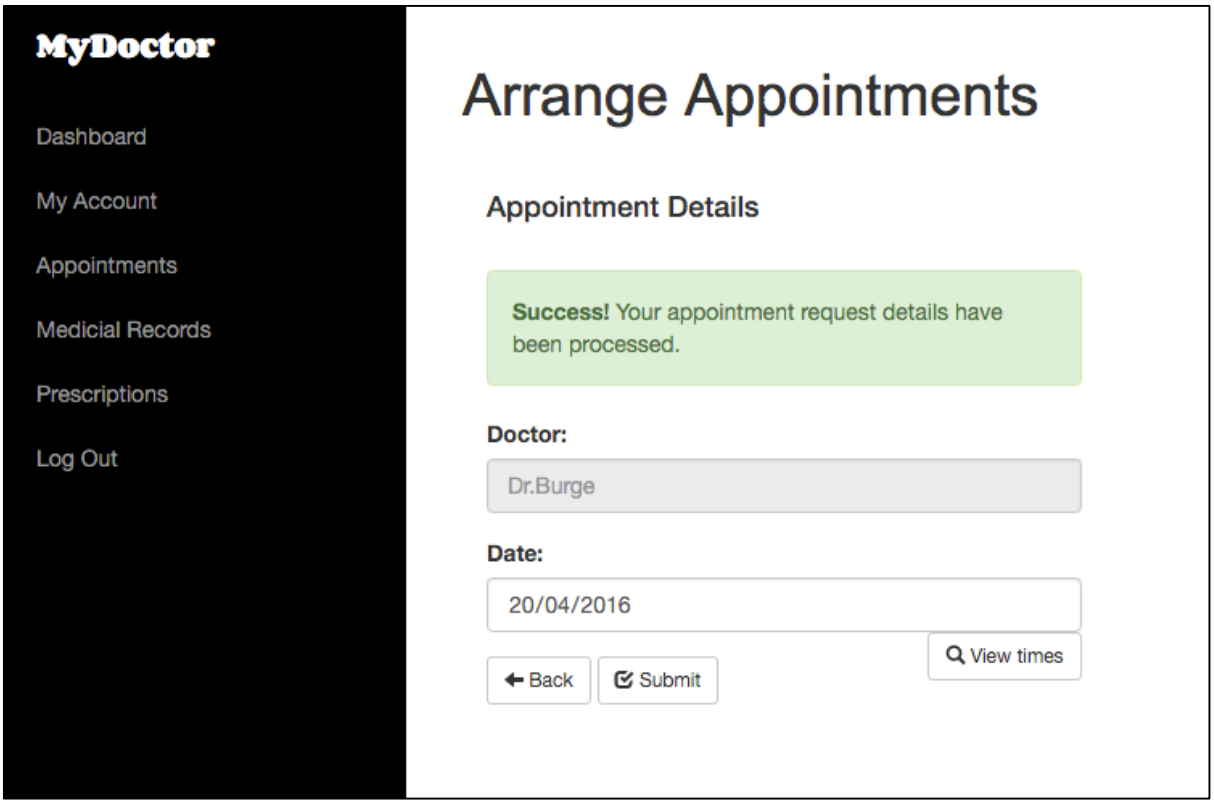
Time and Reason input fields displayed after select “View times” button



Drop down menu displaying all available times for that date



Time and Reason fields displaying inputted data

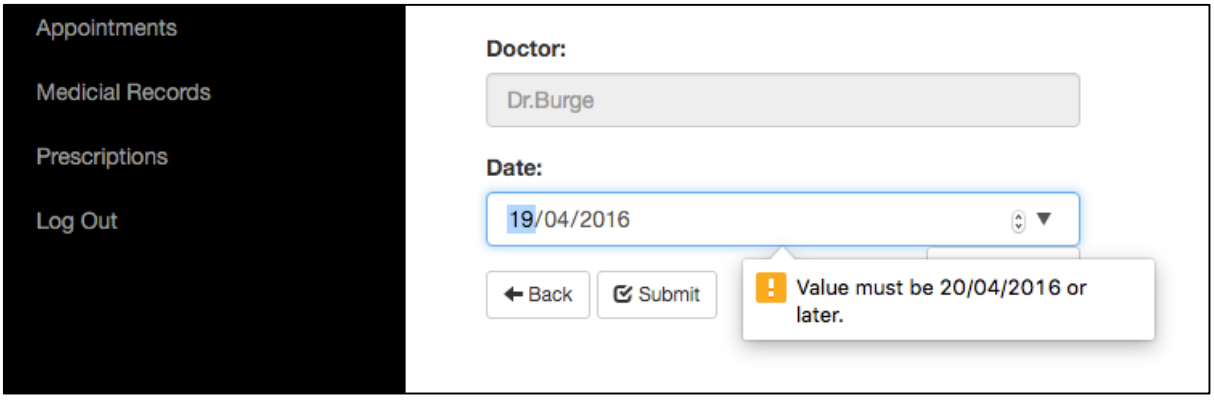


Submission success message shown after Submit button selected

AppointmentID	PatientID	DoctorID	Date	Time
46	1	1	2016-04-20	08:00:00

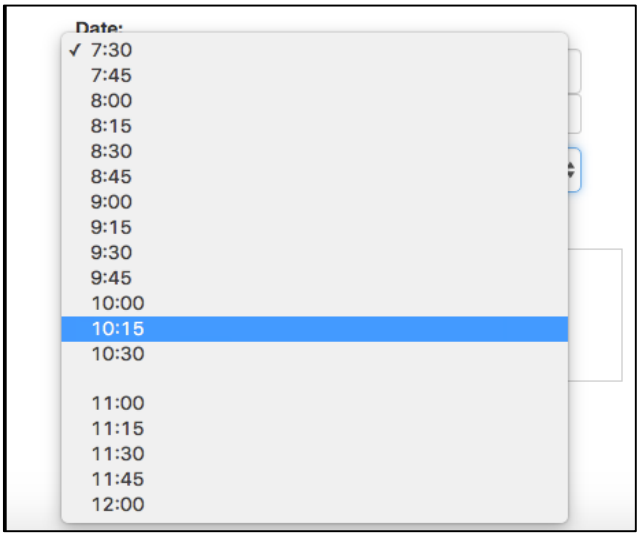
New appointment record created in the database

Test ID 3.2 - User cannot select a date earlier than todays



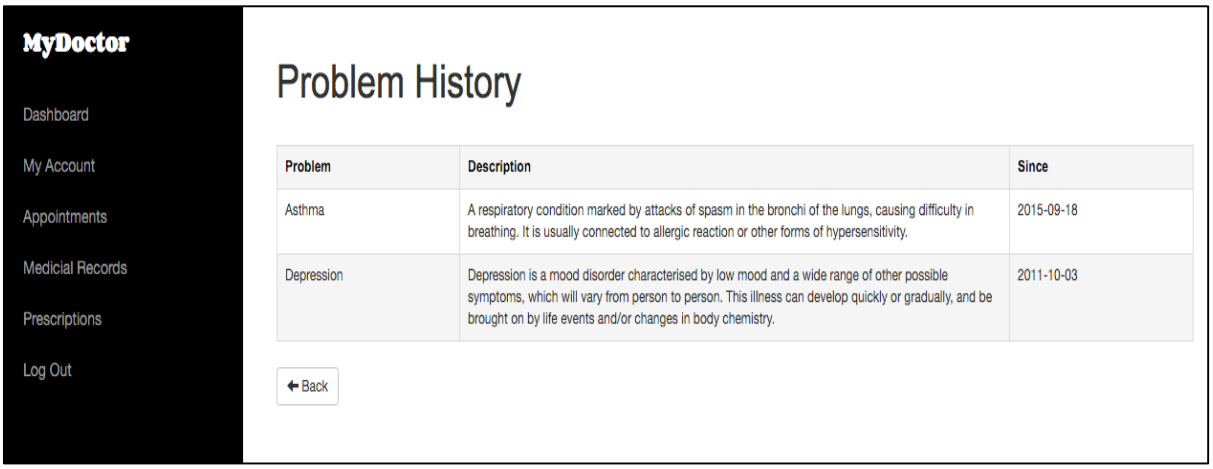
Error message is shown on submission of a date earlier than todays

Test ID 3.3 - User cannot select taken appointment times

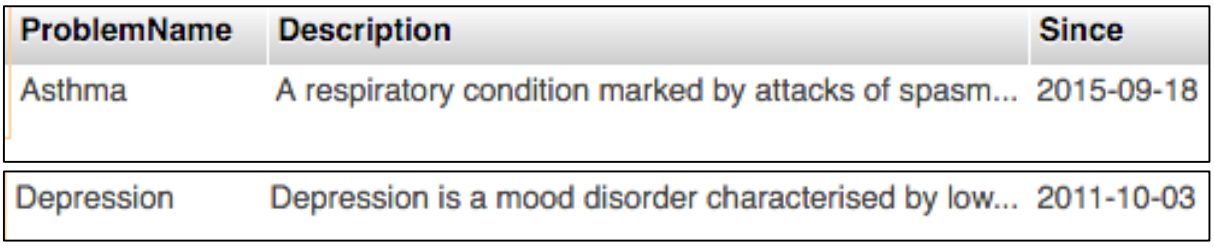


Taken appointment times removed from time drop down

Test ID 3.4 - User can view their problem history

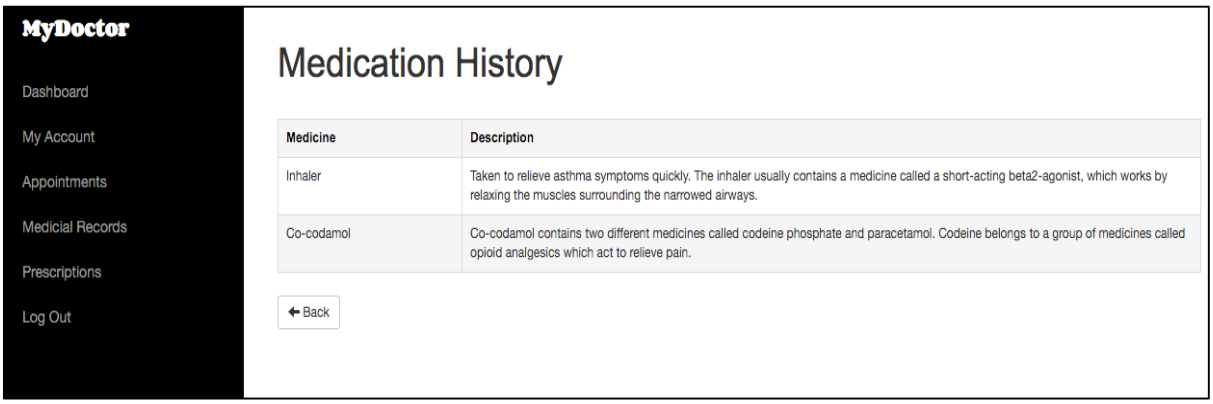


User is displayed their problem history



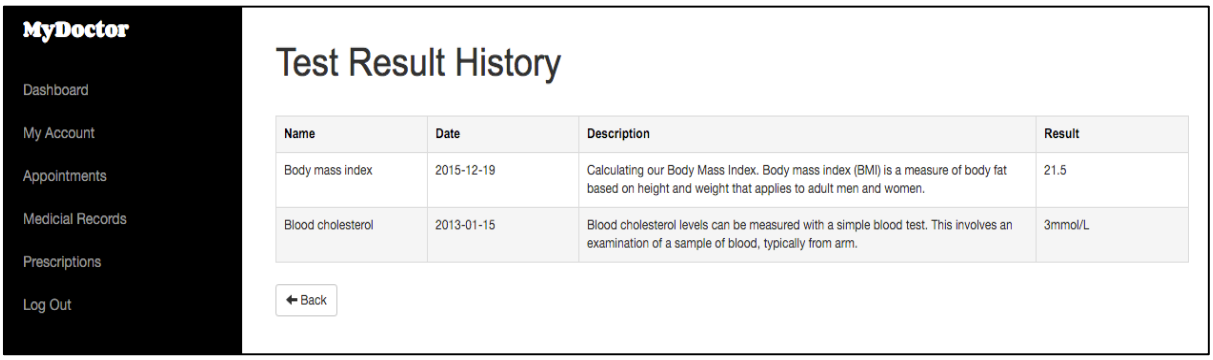
Problems displayed match those stored within system database

Test ID 3.5 - User can view their medication history



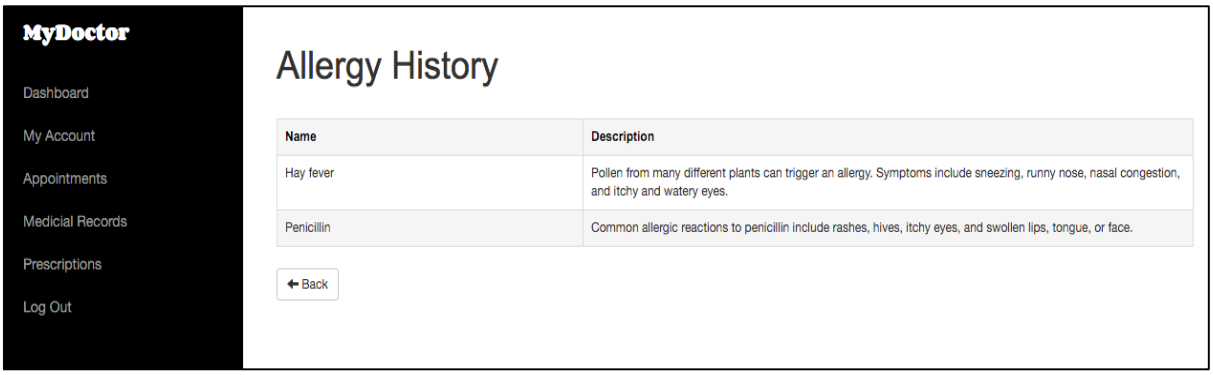
User is displayed medication history

Test ID 3.6 – User can view their test results history



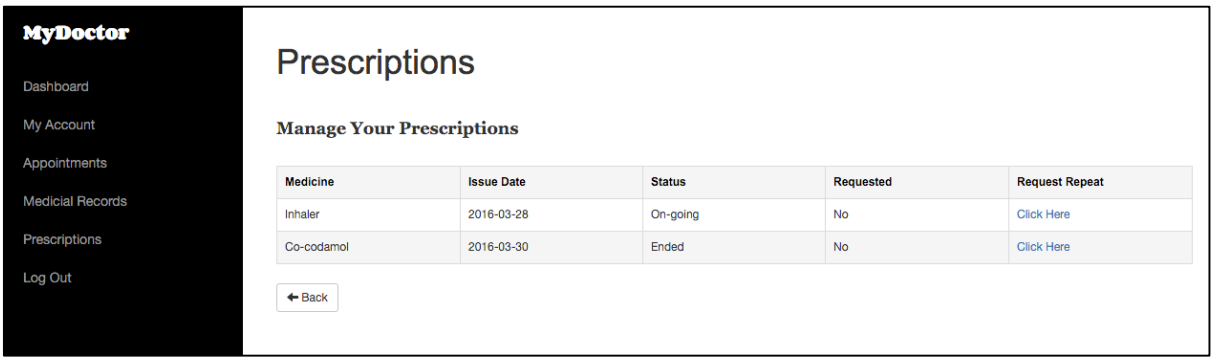
User is displayed test results history

Test ID 3.7 – User can view their allergy history



User is displayed allergy history

Test ID 3.8 - User can view their prescription history

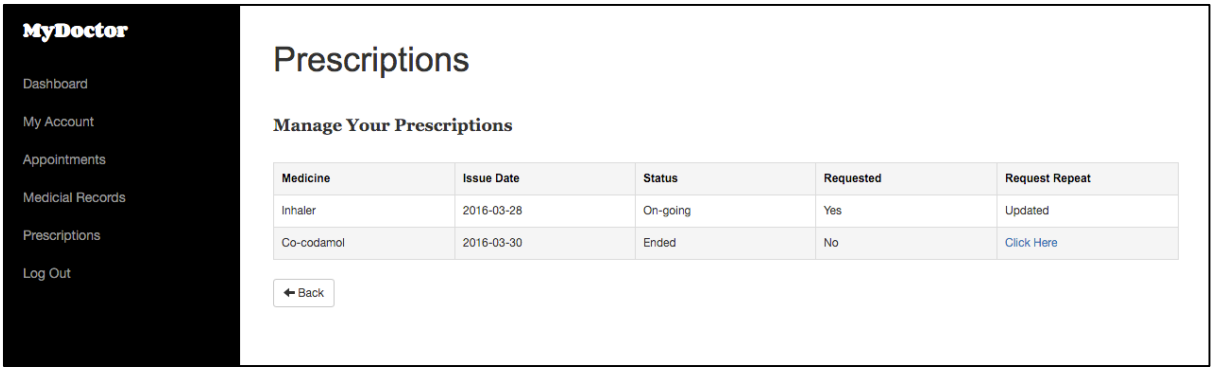


User is displayed prescription history

Test ID 3.9 - User can request a repeat prescription of medication

PrescriptionID	PatientID	DoctorID	MedicineID	IssueDate	Status	RepeatRequest
1	1	1	4	2016-03-28	On-going	0

Database record showing no current repeat request



User selects repeat request of prescription, updating the request column to "Updated"

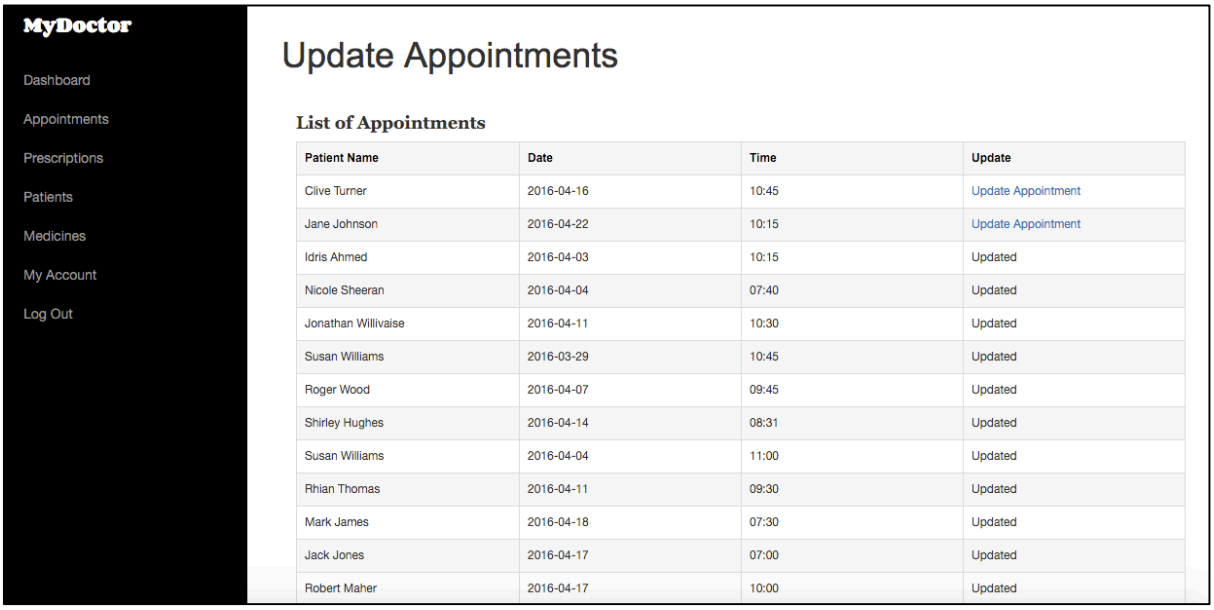
PrescriptionID	PatientID ▲ 1	DoctorID	MedicineID	IssueDate	Status	RepeatRequest
1	1	1	4	2016-03-28	On-going	1

Database record is updated on submission showing repeat has been requested

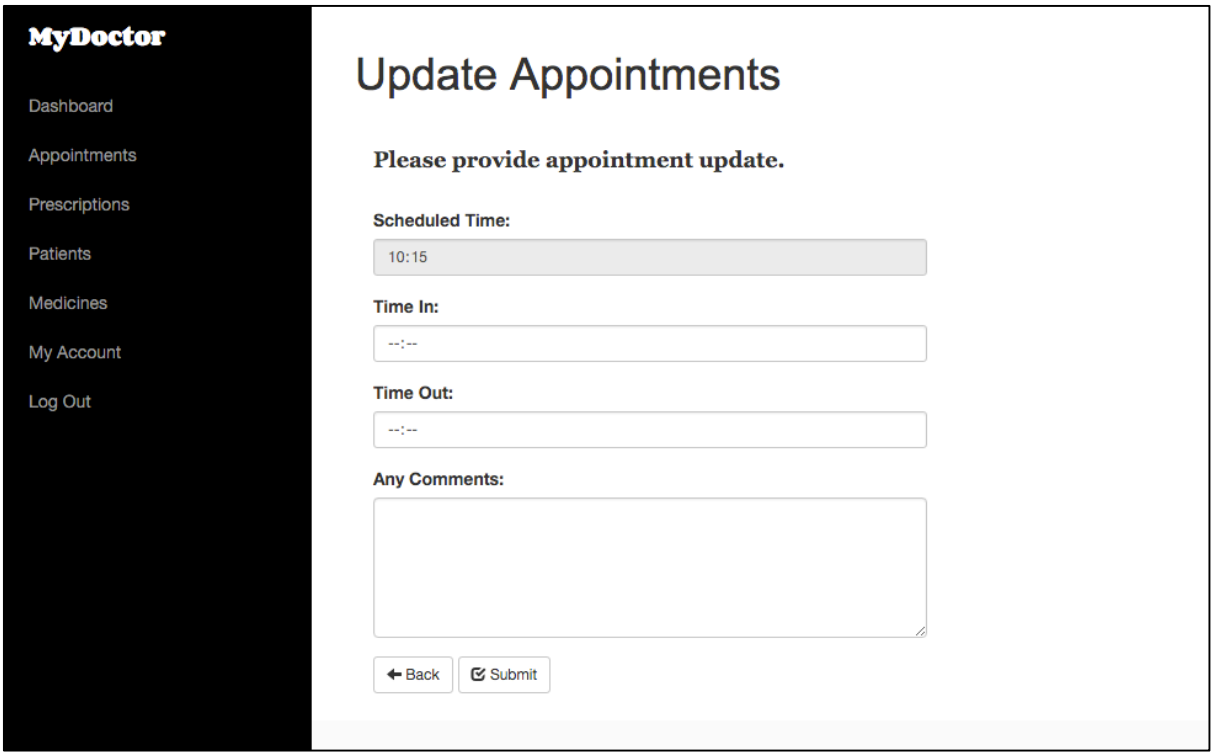
Test ID 4 - User can view their appointments

User appointments displayed in calendar format

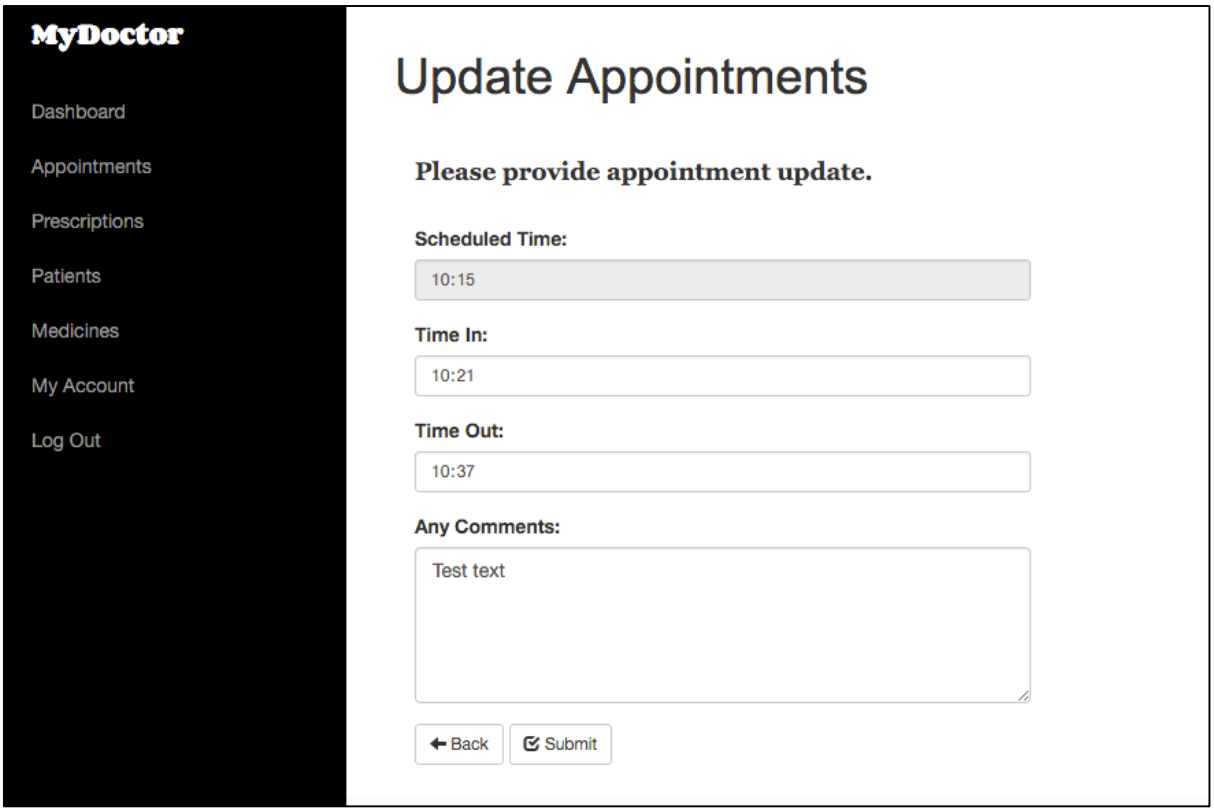
Test ID 4.1 - User can update appointments



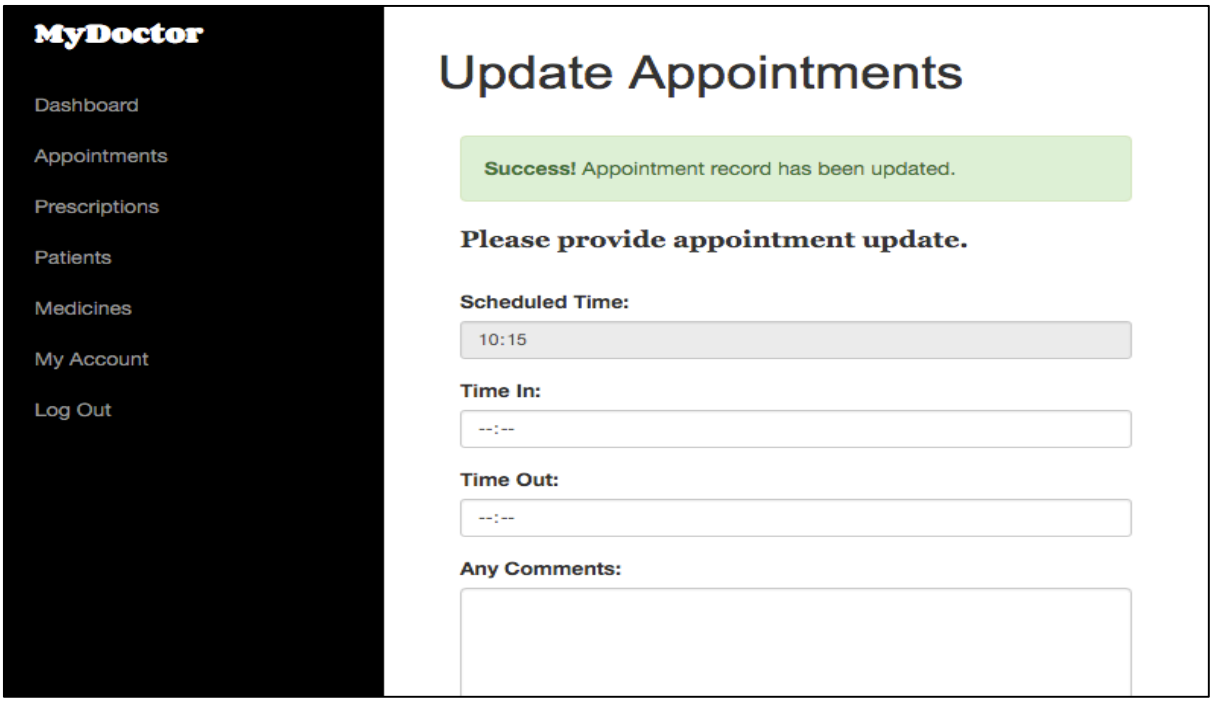
User appointments are displayed in table format, identifying those that required updating within the "Update" column



Appointment update input form is displayed for chosen appointment (10:15)



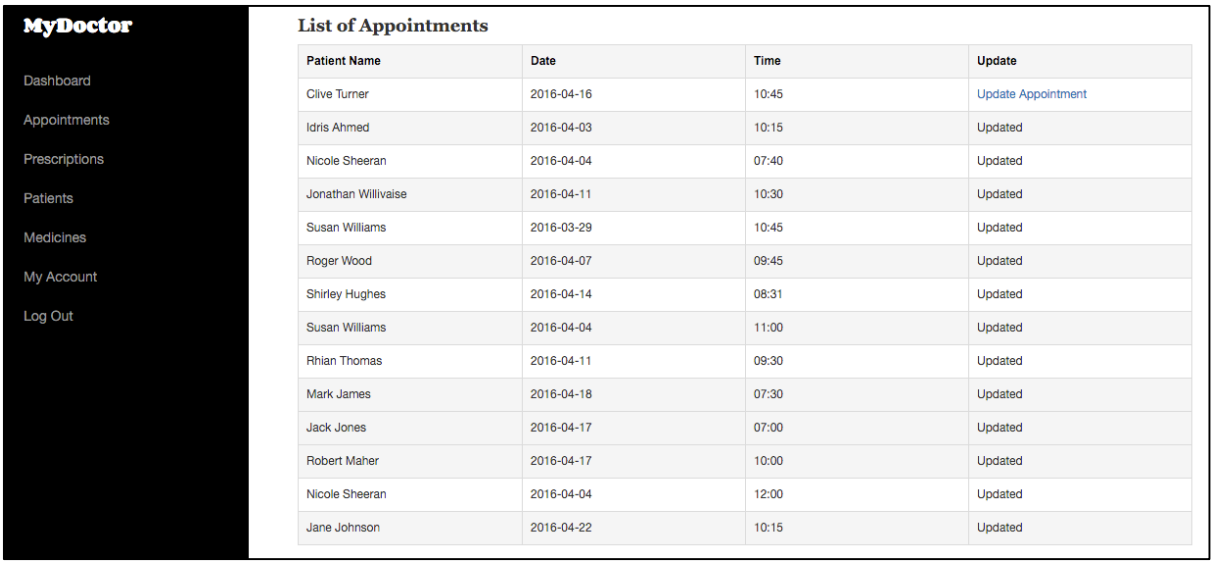
Data is entered and displayed within input fields



Submission success message shown after Submit button selected

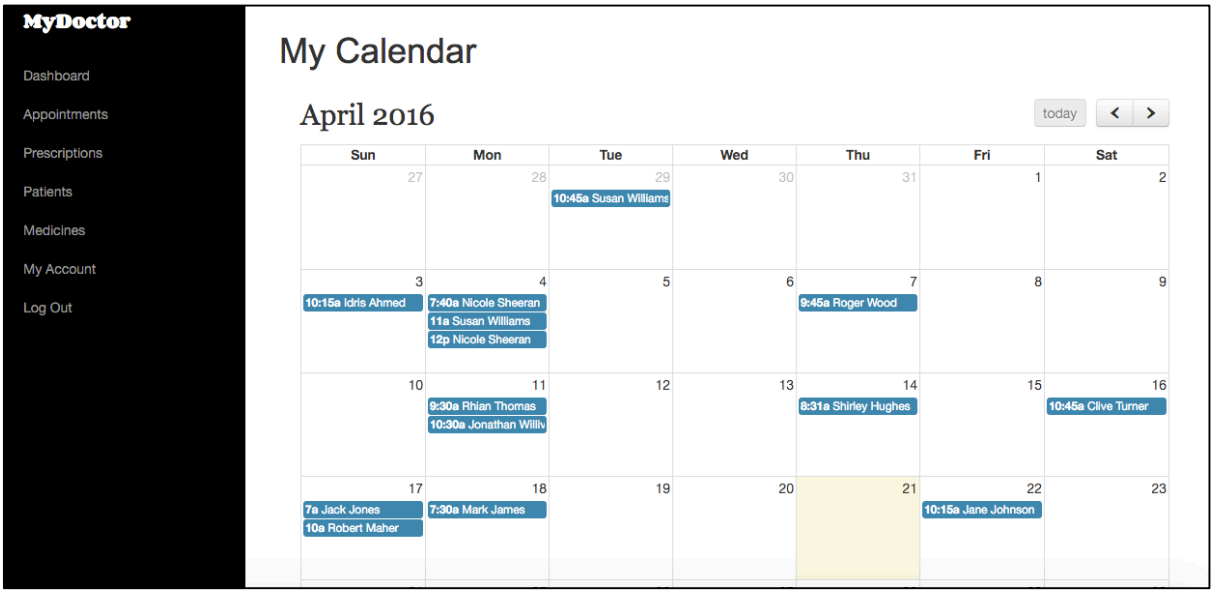
AppointmentID	PatientID	DoctorID	Date	Time	Reason	TimeIn	TimeOut	Comments
38	9	2	2016-04-22	10:15:00	test	10:21:00	10:37:00	Test text

Appointment record is updated within database

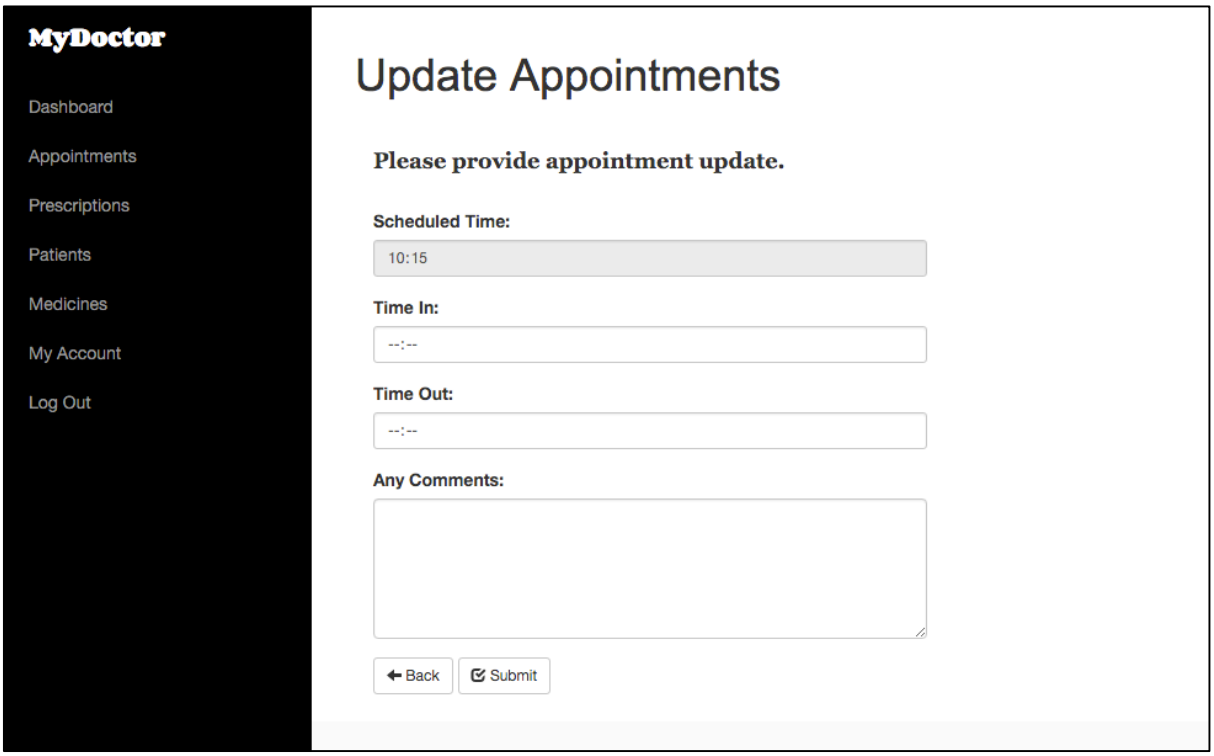


Appointment "Update" column changed to "Updated"

Test ID 4.1.1 - User can update appointments (alternative steps)

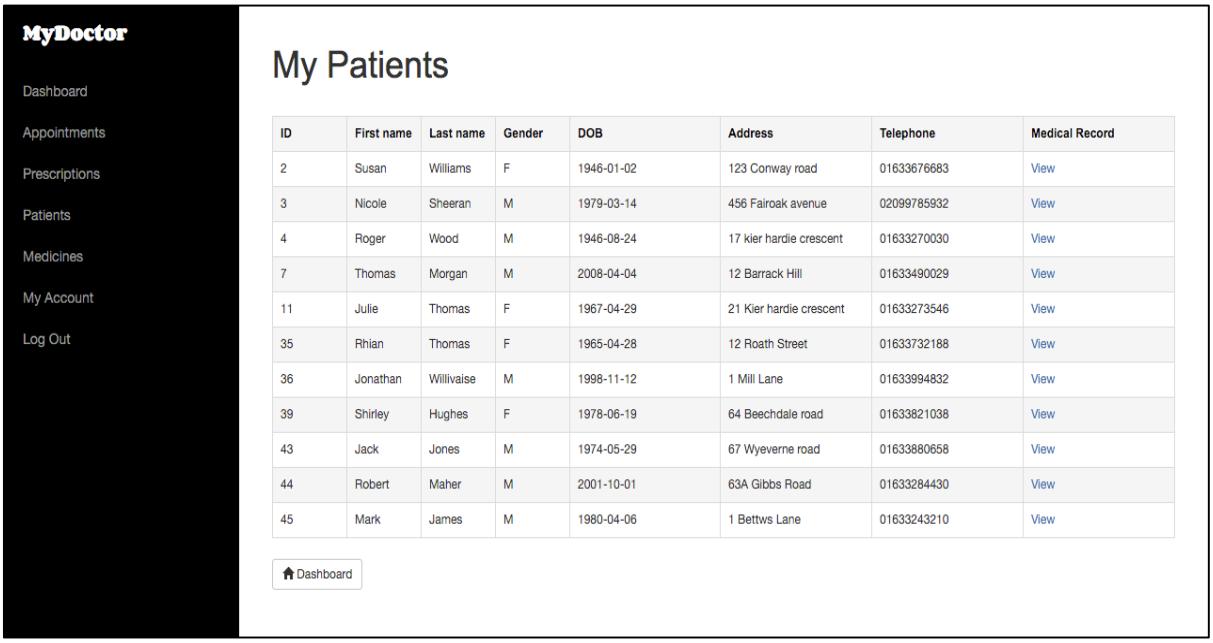


User is displayed calendar and selects appointment requiring update



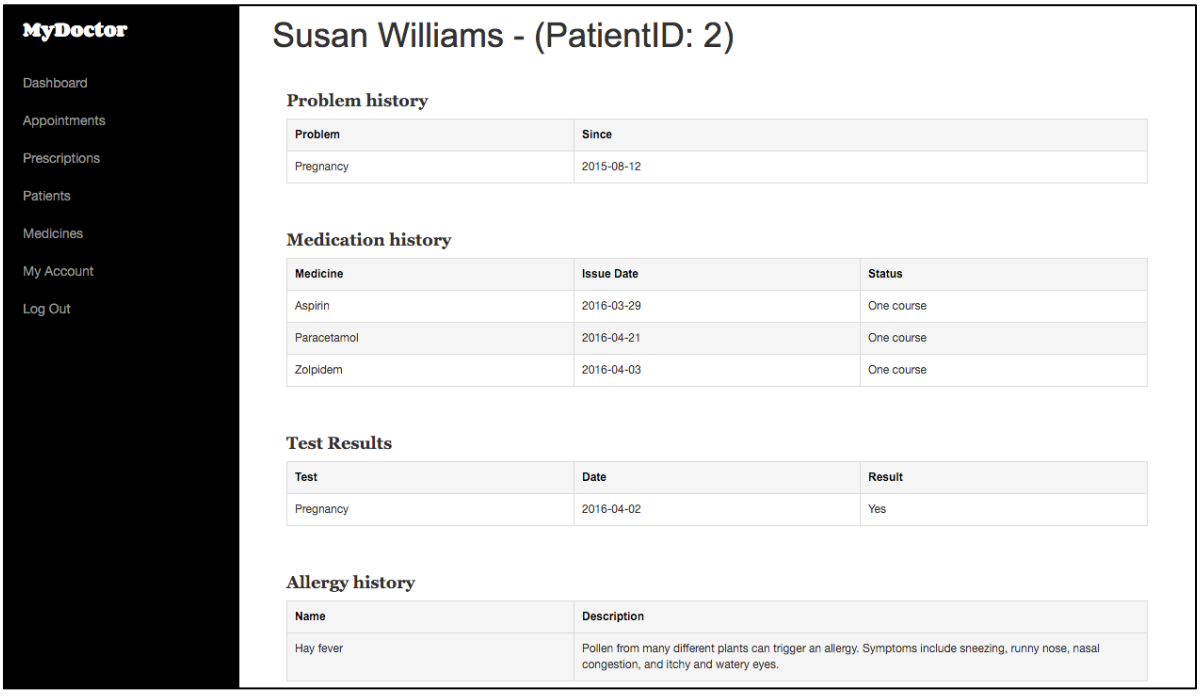
User is redirected to appointment update page for that appointment and displayed input form

Test ID 4.2 – User can view their patients



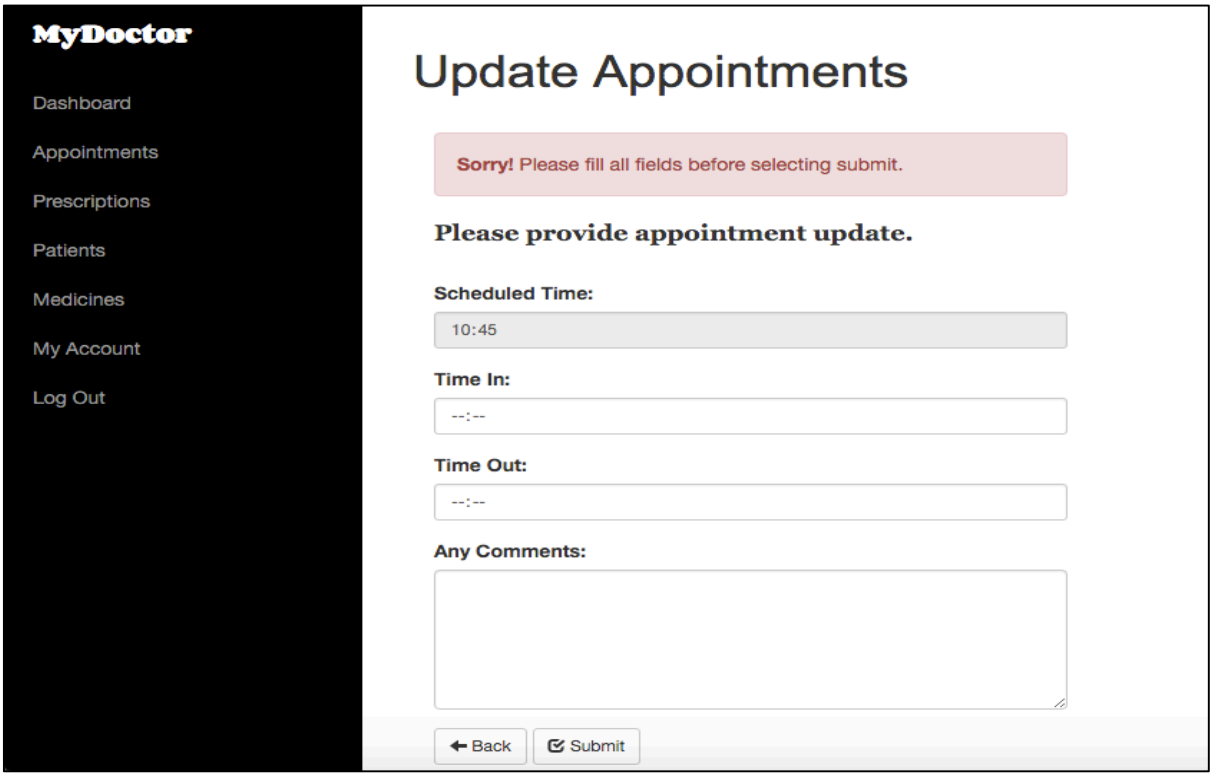
Users patient details are displayed in table format

Test ID 4.3 - Doctor can view individual patient medical record



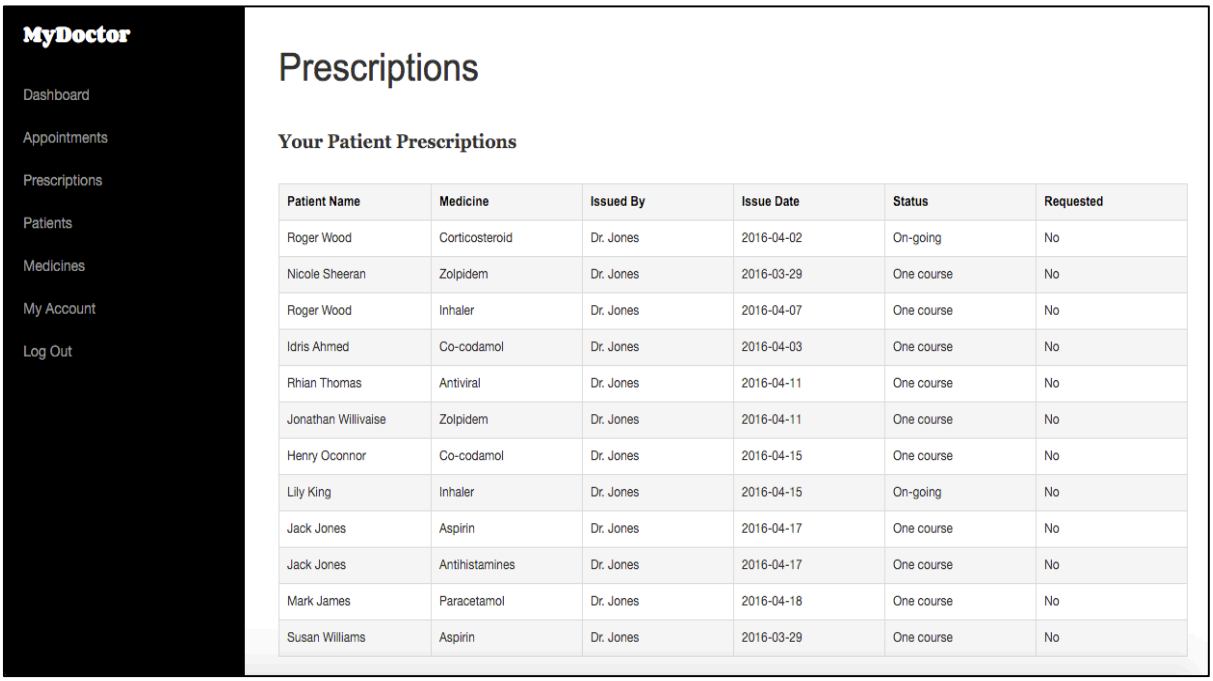
User is displayed individual patient medical record

Test ID 4.4 – User cannot submit appointment update without completing all fields



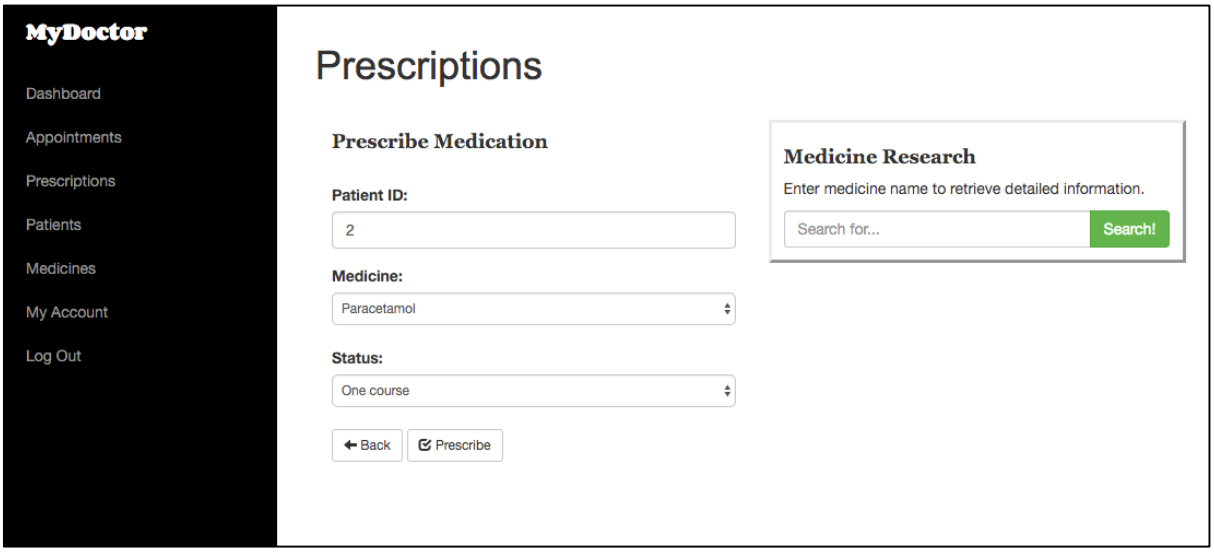
Error message informing user "Sorry! Please fill all fields before selecting submit"

Test ID 4.5 - User can view their patient prescription history

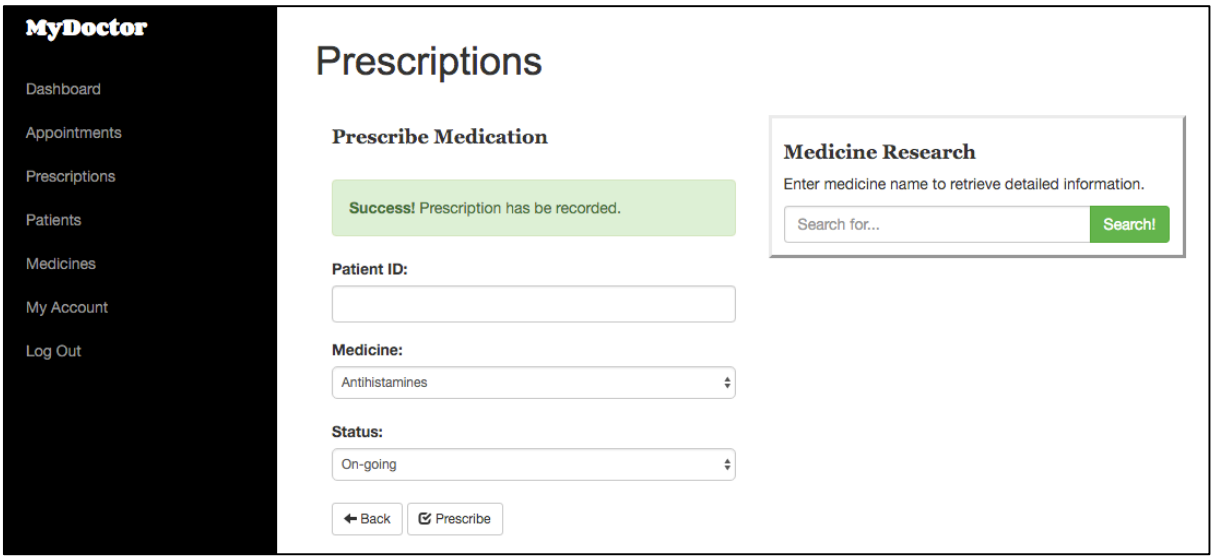


Users patient prescriptions are displayed in table format

Test ID 4.6 - User can prescribe patients medication



Prescription details entered

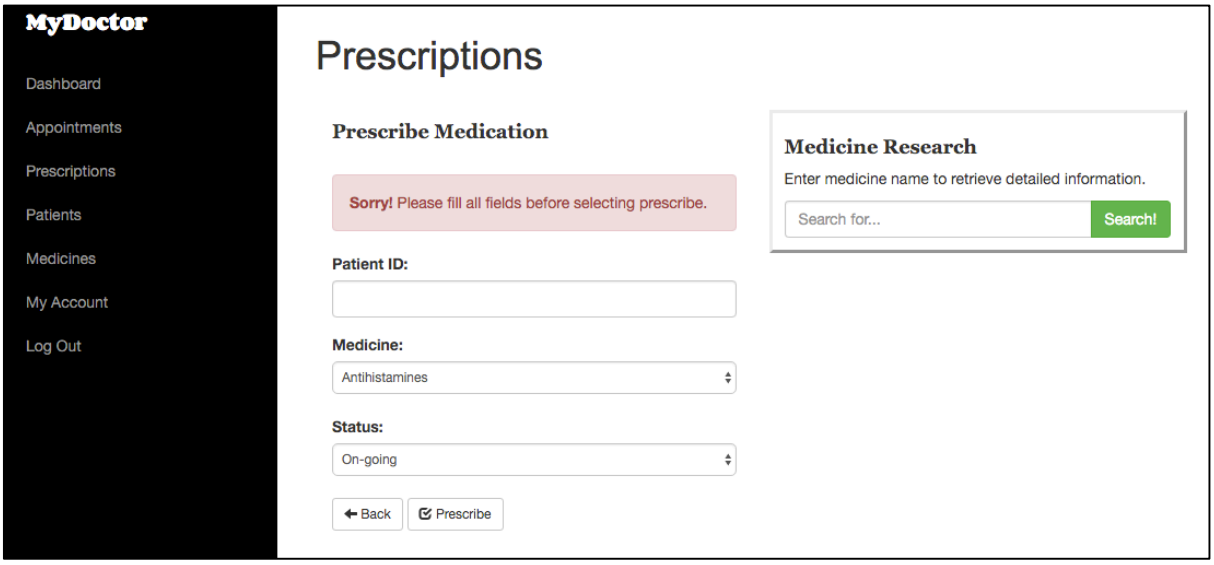


Success message shown on successful submission of prescription

PrescriptionID	PatientID	DoctorID	MedicineID	IssueDate ▼ 1	Status	RepeatRequest
53	2	2	2	2016-04-21	One course	0

New prescription record created in database table Prescriptions

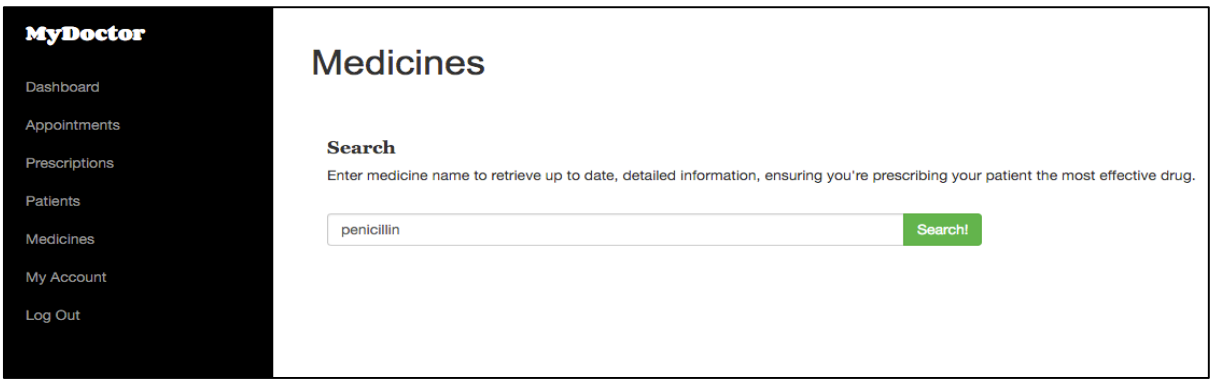
Test ID 4.7 - User cannot submit incomplete prescription



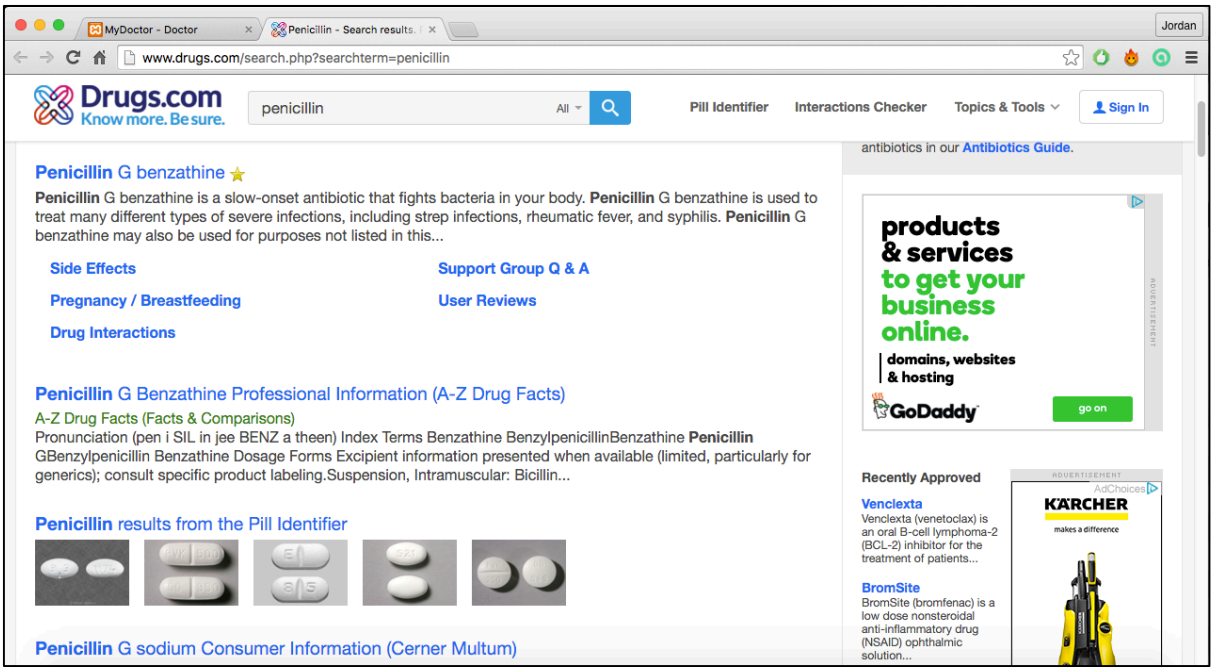
Error message displayed when user tries to submit incomplete prescription

Test ID 4.8 - User can research medicines

Search bar input is displayed on medicines page

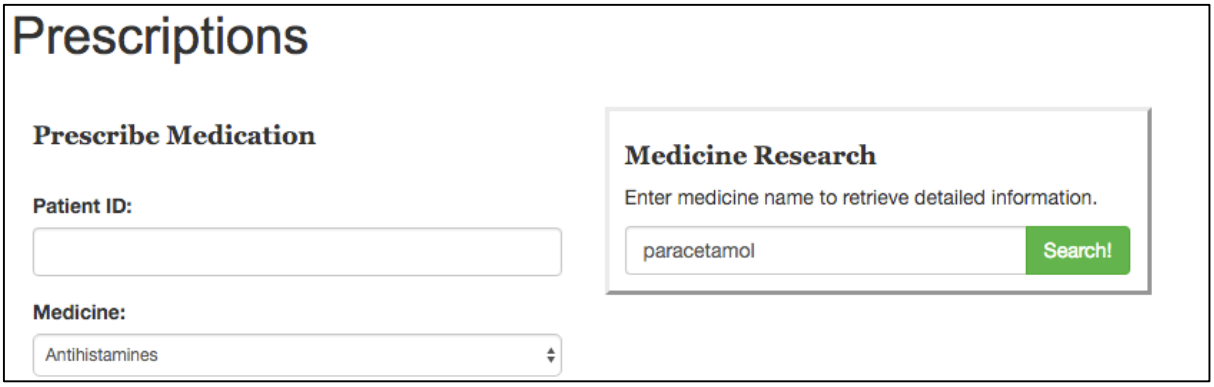


User can input their desired search term

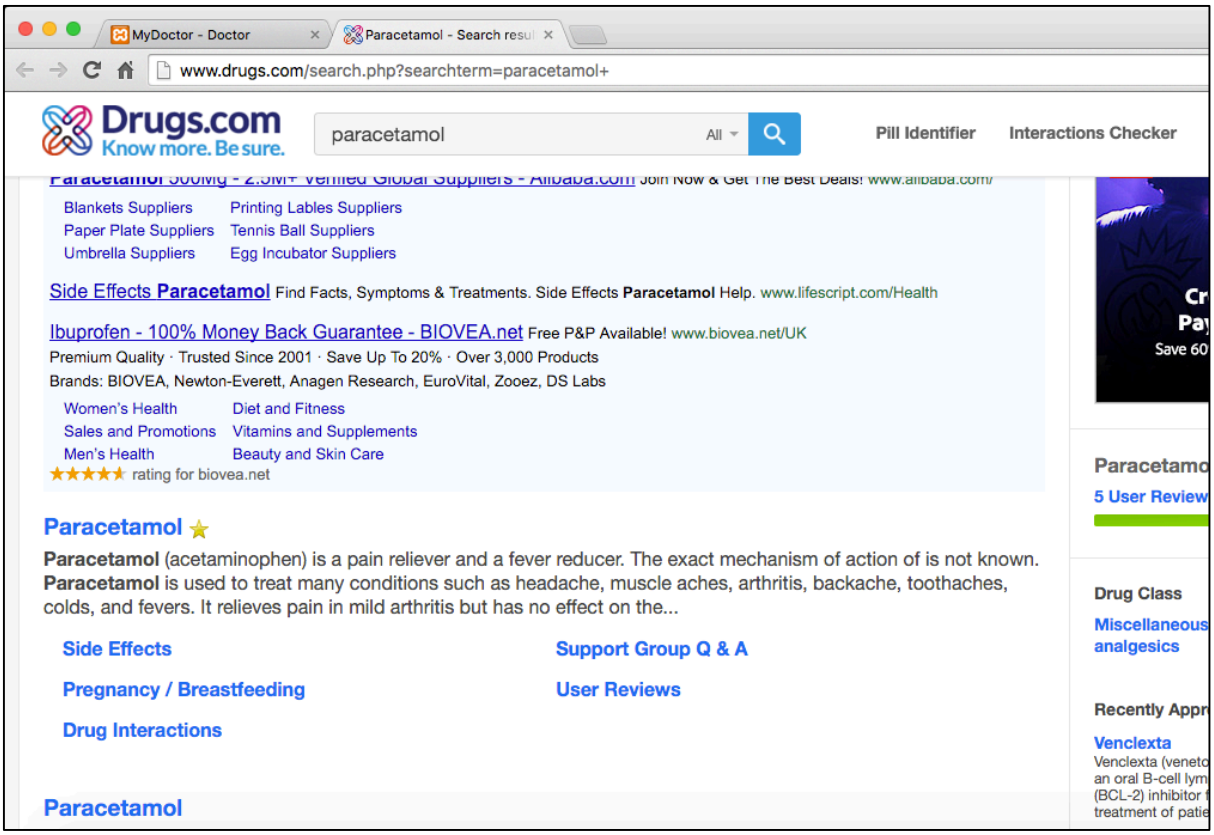


New web browser tab is opened showing search term results on www.drugs.com

Test ID 4.8.1 – User can research medicines

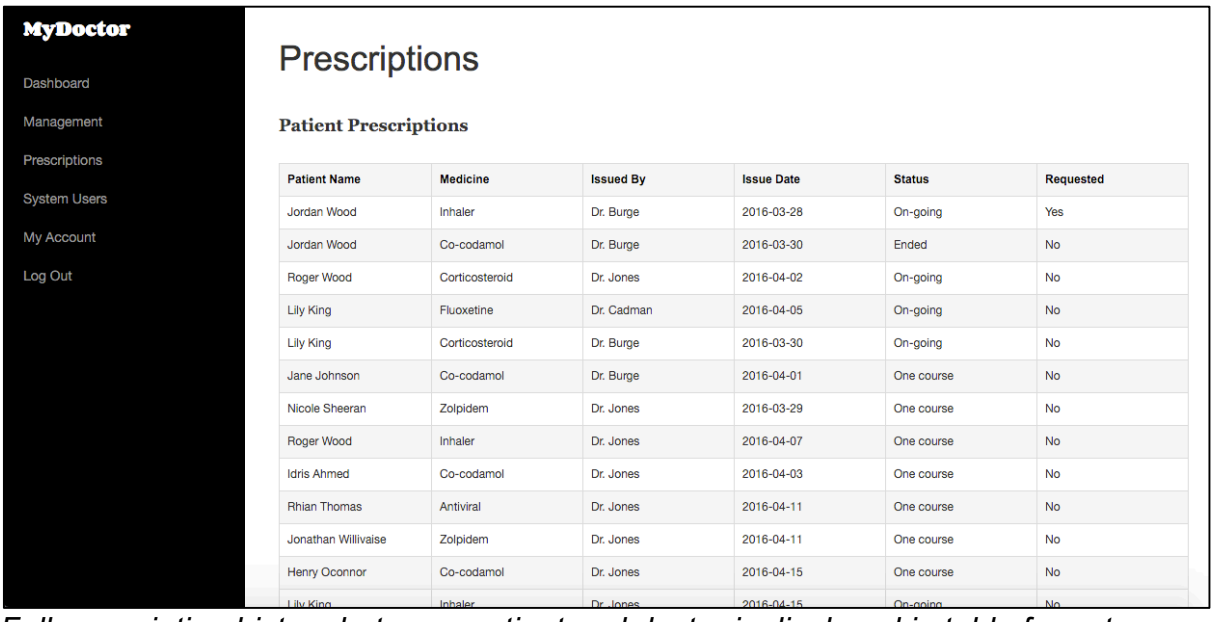


Search term entered into search input field (Prescriptions page)



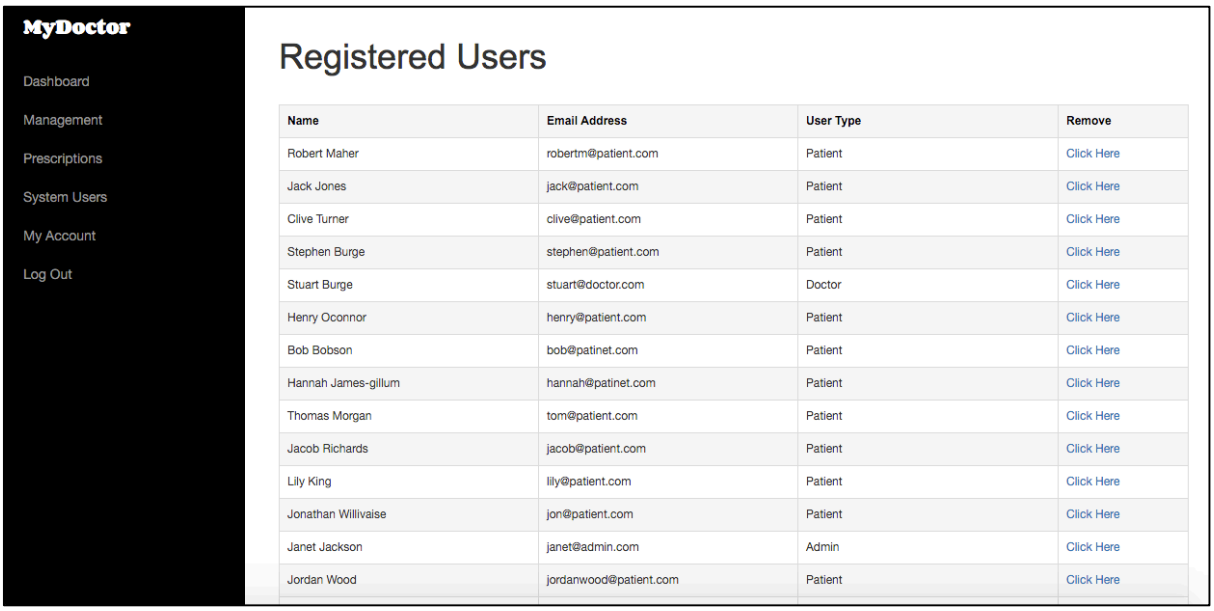
New web browser tab opened displaying results of search term on www.drugs.com

Test ID 5 – User can view all prescriptions



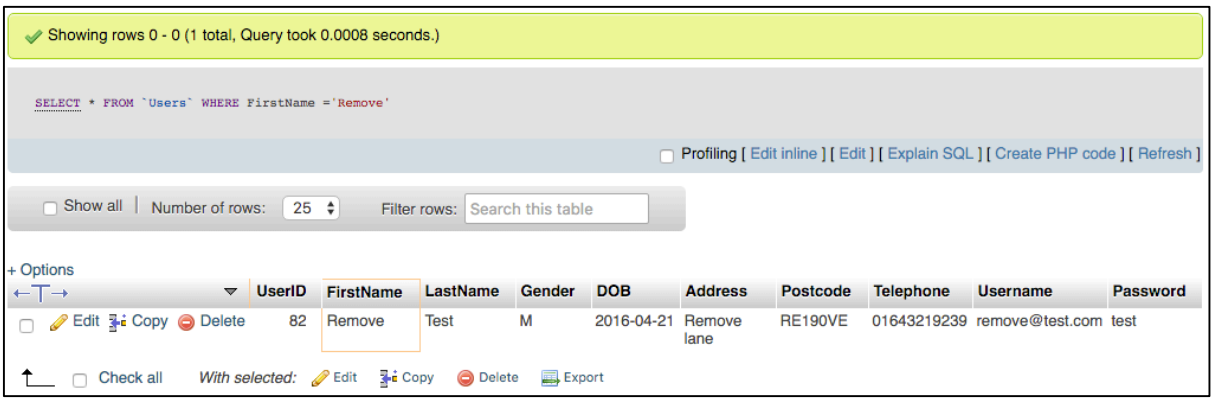
Full prescription history between patient and doctor is displayed in table format

Test ID 5.1 - User can view all registered system users

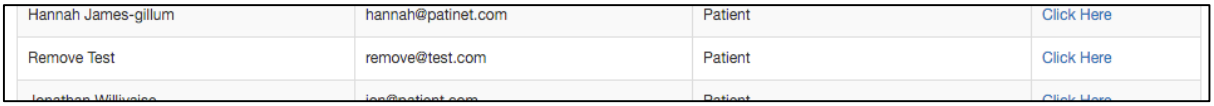


User is displayed all registered users in table format

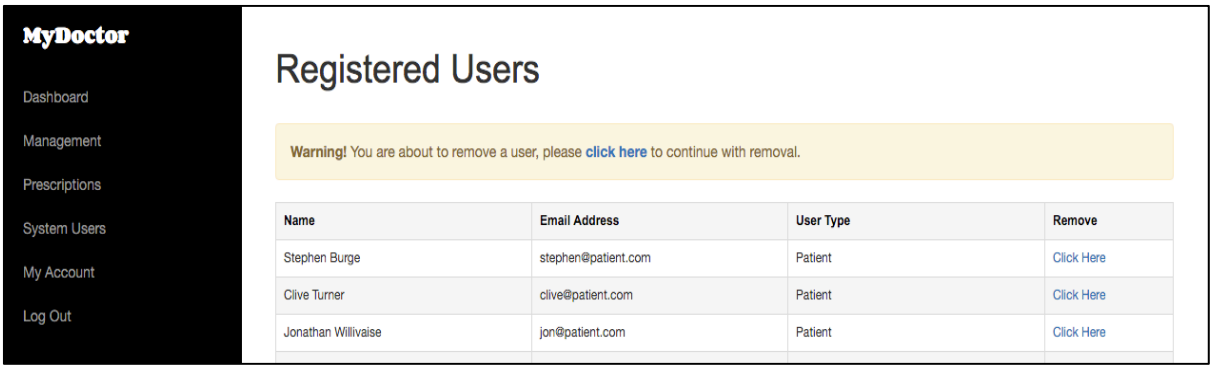
Test ID 5.2 - User can remove users from the system



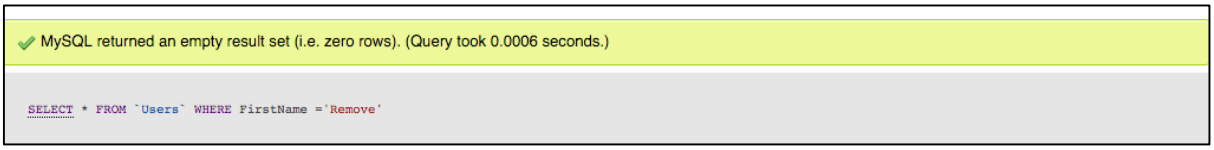
Database record for removal user test before removing



Locate user and select “click here” within remove column

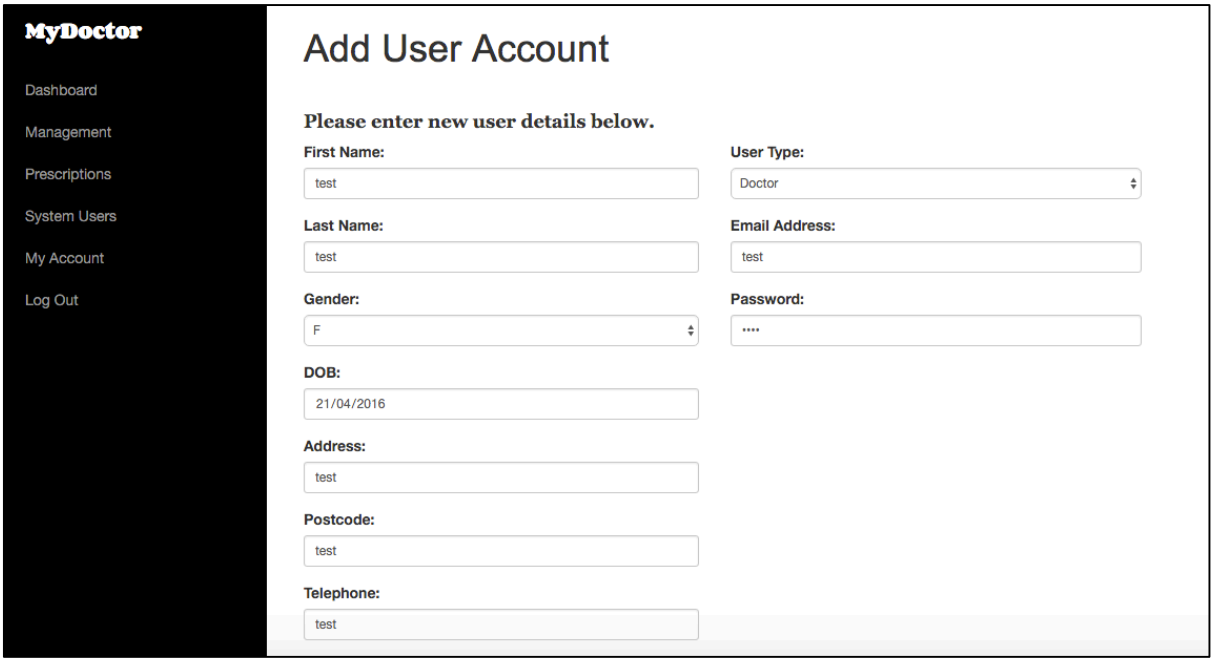


Warning message shown once "click here" selected in remove column. Showing "Warning! You are about to remove a user, please click here to continue with removal"

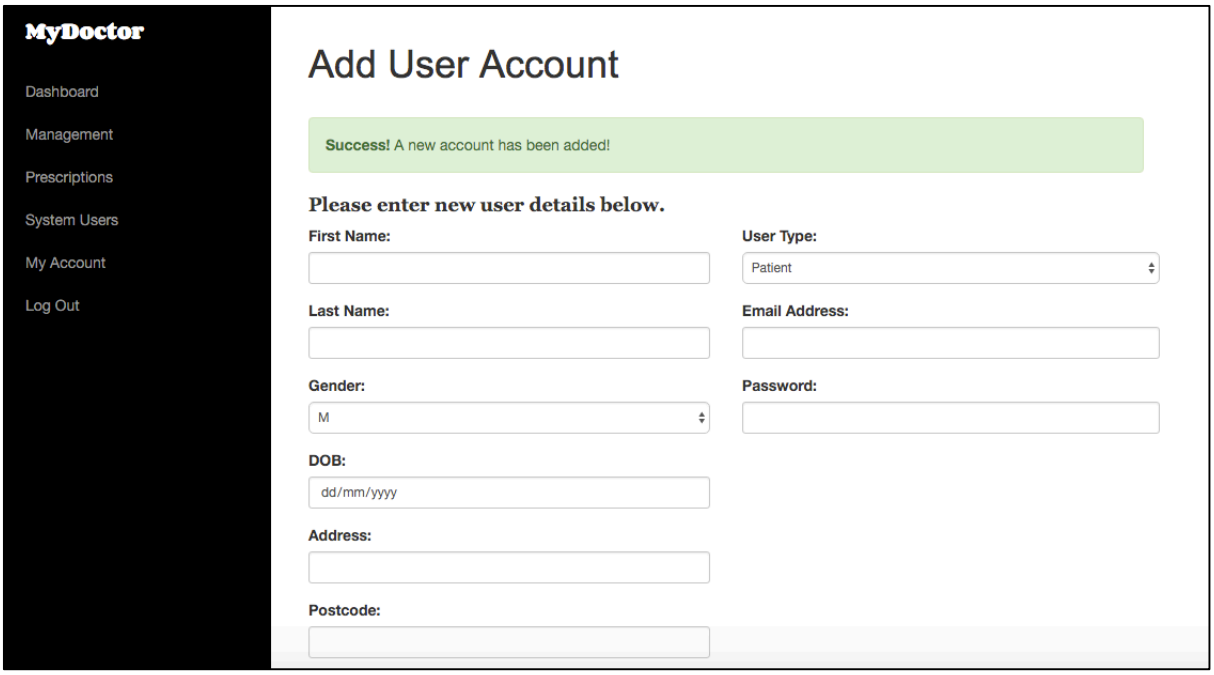


Record was removed from the system

Test ID 5.3 - User can add users to the system



Test user data entered and displayed in input form



Success message shown on submission

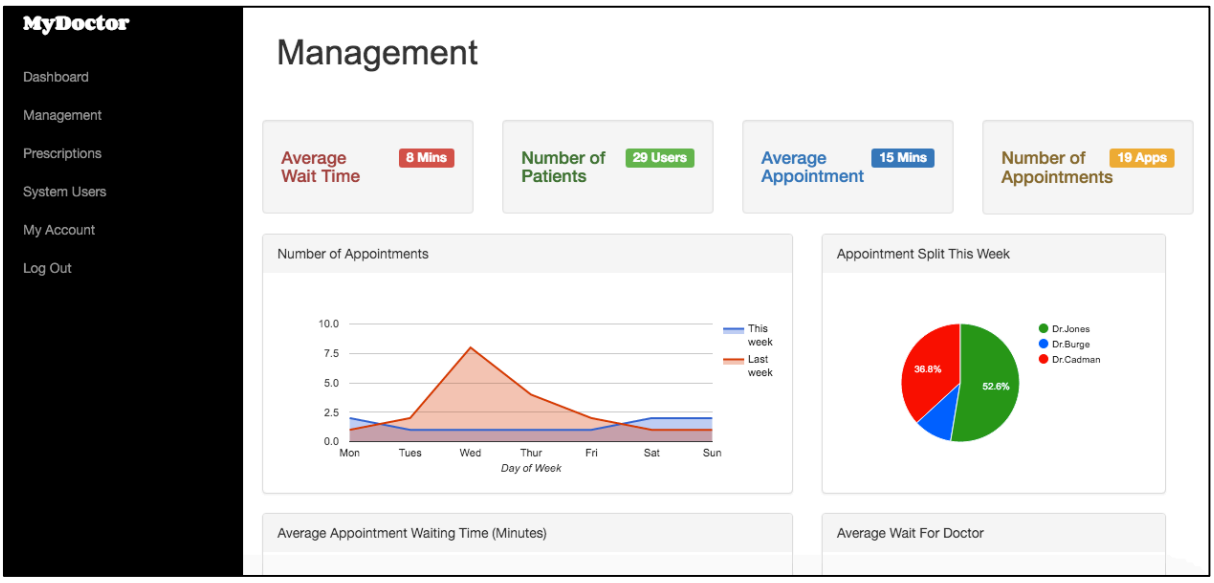
UserID	FirstName	LastName	Gender	DOB	Address	Postcode	Telephone	Username	Password
89	test	test	F	2016-04-21	test	test	test	test	test

New user record added to Users table within system database

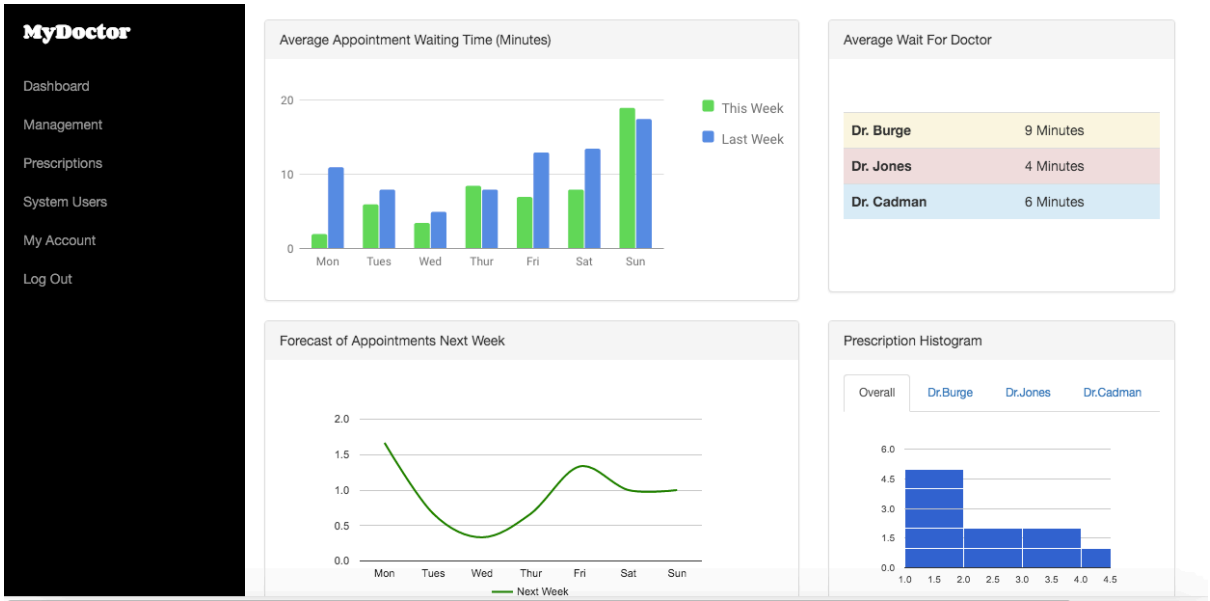
DoctorID	UserID
11	89

Specified user type recorded matching chosen user type on input

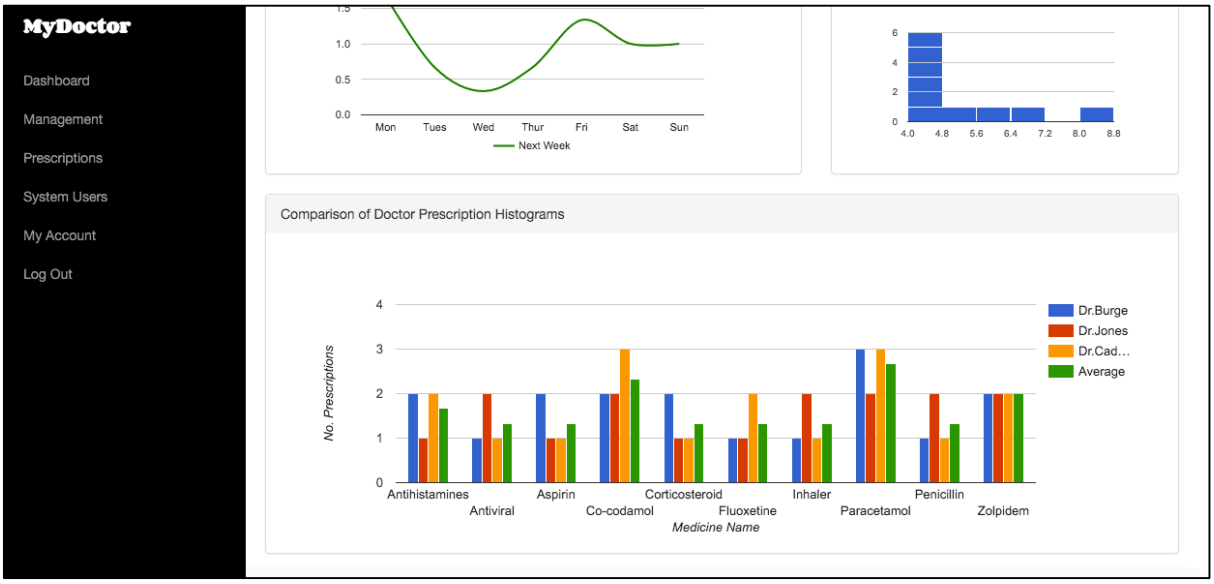
Test ID 5.4 - User can access Management data



User is displayed management data (Part 1)



User is displayed management data (Part 2)



User is displayed management data (Part 3)

Think-aloud testing

This section of testing will be focused system features that involve all three user types Patient, Doctor and Admin.

Test ID 1 – Logging into the system

Preconditions: User is on the homepage of the system			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I have located the login details input fields, I am now entering my email address and password details.	No problems found.	The login inputs are recognisable and easy to locate.
2	I have selected the login button and been redirected to a new page welcoming me.	No problems found.	Login process was easy and I didn't experience any problems.

Test ID 1.1 – Editing user account details

Preconditions: User has logged into the system			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I can see my details on my homepage. I am now selecting view all.	No problems found.	Once logged in I can see all of my details straight away.
2	I selected the view all button underneath my displayed details. I have now been redirected to "My Account".	No problems found.	Clear display of my user account and personal details.
3	There is an edit button under my account details. I am selecting that. I am now on a new page with the title edit details.	No problems found.	
4	I am entering a new email address and password into the provided text boxes.	No problems found.	Works as I'd expect.
5	I have selected submit and a message has told me my details were submitted successfully.	No problems found.	The success message is helpful as without it I wouldn't know if it had worked.

Test ID 1.2 – Editing user personal details

Preconditions: User has logged into the system			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	My details are displayed on my dashboard. I have clicked view all.	No problems found.	My details clear to see.
2	I am now on the my account page and can see an edit button under personal details. I have selected edit and been taken to a page displaying a form to change my details.	No problems found.	I like how my current details are displayed in the input boxes.
3	I have input the changes I needed to make and am I now clicking submit. A message has appeared telling me my personal details have successfully been updated.	No problems found.	Easy process.

Patient tests

This section of test cases will be focused on Patient user type features.

Test ID 2 – View appointments

Preconditions: User has logged into the system with a patient user account			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I have located the appointments button in the toolbar and clicked it. I am now at the appointments page and can see my next appointment and an arrange appointment option.	No problems found.	Easy to find
2	I have selected view all and have been taken to a page displaying all of my appointments future and past.	All I can see is a list of my appointment dates and times. What if I wished to see more detail about the appointment.	No problems

Test ID 2.1 – Arrange an appointment

Preconditions: User has logged into the system with a patient user account and navigated to the appointments page			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I have located the arrange appointments section and selected arrange button.	No problems found.	Informative paragraph about the section.
2	I have selected the arrange button and been taken an arrange appointments page.	No problems found.	
3	I have chosen a date and selected view times button. A time input and reason box have appeared.	No problems found.	Drop down menu for available appointment times is good.
4	I have entered my appointment details and selected submit. I was notified of my successful submission of details.	No problems found.	Success message is informative.

Test ID 2.2 – View prescriptions & request repeat prescription

Preconditions: User has logged into the system with a patient user account			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I have located the prescriptions tab in the navigation bar and selecting it.	No problems found.	Easy to find.
2	I have been redirected to the prescriptions page showing a table of my prescription history.	No problems found.	Nice and clear.
3	I have located the Request Repeat column in the table. I am now locating the prescription I want to repeat and clicking click here. Column has changed from click here to updated.	No problems found.	Very simple to use.

Test ID 2.3 – Request a repeat prescription

Preconditions: User has logged into the system with a patient user account and navigated to prescriptions page			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I have located the arrange appointments section and selected arrange button.	No problems found.	Informative paragraph about the section.
2	I have selected the arrange button and been taken an arrange appointments page.	No problems found.	
3	I have chosen a date and selected view times button. A time input and reason box have appeared.	No problems found.	Drop down menu for available appointment times is good.
4	I have entered my appointment details and selected submit. I was notified of my successful submission of details.	No problems found.	Success message is informative.

Doctor

This section of test cases will be focused on Doctor user type features.

Test ID 3 – View all patients & individual patient medical record

Preconditions: User is logged into the system with a doctor account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I have located a patients button in the menu bar. I am selecting it. I have been taken to a page of my patients.	User found no problems.	No difficulty navigating to patients section.
2	I can currently see all of my patients displayed in a table. I can see a column titled medical records that contains a view link, I assume this is for each patient. I must first locate the patient I require.	I believe that in the future the volume of patients I may have would could lead to difficulties when locating individuals in this format. I would suggest including a search bar to search for patients.	The layout is clear to understand once my patient has been located.
3	I have found the patient I require and am now pressing view button. I have been taken to the medical record page for the resulting patient.	User found no problems.	No problems experienced when navigating and all information seems clear.

Test ID 3.1 – View appointments

Preconditions: User is logged into the system with a doctor account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I am clicking on the appointment tab on the left. I was successfully redirected to the appointment page.	No issues	Easy and simple
2	I am clicking on the view calendar button on the appointment page. Here the I can see my appointments in populated in the calendar.	No issues	Very easy to use and navigate through days and months

Test ID 3.2 – Submit appointment update

Preconditions: User is logged into the system with a doctor account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I am looking for the appointment page. This was easily found on the left hand toolbar. I am clicking on the appointment tab. I was redirected to the appointment section	No problem areas	Very easy to locate
2	On the appointment tab, the needed patient was on the preview list meaning there was no need to view all patient.	No issues	Easy to navigate and update
3	Updated appointment by clicking on update link. Here I could easily change the time of the appointment and add any verbatim comments. After updating the appointment, I was shown a successful submission request message.	No issues	Simple interface to easily change required fields
4	After submitting I am now going to be back to see if the appointment is marked as updated.	In order to develop this feature, I would recommend adding a filter on the table so I can easily locate the appointment I made. Filtering on fields like Patient id, date etc. would help	No issues

Test ID 3.4 – View prescriptions

Preconditions: User is logged into the system with a doctor account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I am my patient prescriptions. To do so, I clicked on the prescription tab on the toolbar. I was correctly redirected.	No issues	Very simple and quick
2	I am clicking on the view all button for prescriptions	No problems, however to improve the functionality of finding prescriptions I would recommend adding filters on date, patient id etc. to easily locate my prescription.	Good usability – for improvements see box to the left.
3	The prescription has been correctly applied to the customer.	No issues detected	Worked effectively.

Test ID 3.5 – Prescribe medication

Preconditions: User is logged into the system with a doctor account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I am looking for the prescription page. This is easily found on the toolbar. I am clicking on the page and being successfully diverted to the prescriptions page.	No problems	Easily located
2	On the prescriptions page, I am looking for the prescribe medication feature. This is easily found by the ‘prescribe’ button	No problems	Clean and simple
3	I am filling in the required fields and prescriptions with no qualms. Successful prescription message achieved on completion.	In future builds I would consider looking into including customer name with ID. It makes it hard to remember the ID of a customer, forcing me to return to my patients.	Easy to navigate and use

Test ID 3.6 – Research medicine

Preconditions: User is logged into the system with a doctor account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I presume medicine research will be under medicines on the toolbar so am selecting that. I have been successfully diverted to Medicine Research page.	No problems	Easy enough to navigate
2	I am now following the instructions and entering a medicine I wish to find out about.	No problems	The instructions are helpful
3	I am clicking search button. A new tab has opened on a drugs.com website with my search results.	I think it would be better if you could generate the search results within the system	Search results were helpful

Admin

This section of test cases will be focused on Admin user type features.

Test ID 4 – View registered users

Preconditions: User is logged into the system with a admin account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	System users is in the side bar, I am clicking that. I am now on users page and can see some registered users	None	No problem finding page
2	Clicking view all under registered users. I can now see all user registered users	There is a big list of users. If I wanted to find a specific one, it may be difficult. I would suggest adding a search or sort option	

Test ID 4.1 – Remove user

Preconditions: User is logged into the system with a admin account and on registered users page			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I see remove column so am finding the user I wish to remove before clicking	As mentioned before big list so difficult to find specific users. Maybe add search or sorting options	Simple
2	Found the user and now clicking click here in remove column. A warning message has popped up asking me to click here if I want to continue with removal	None	I like the warning message to double check I want to remove
3	Clicking click here to continue. User has been removed	Not really a problem however user has been removed message could be useful	Works as expected

Test ID 4.2 – Add user

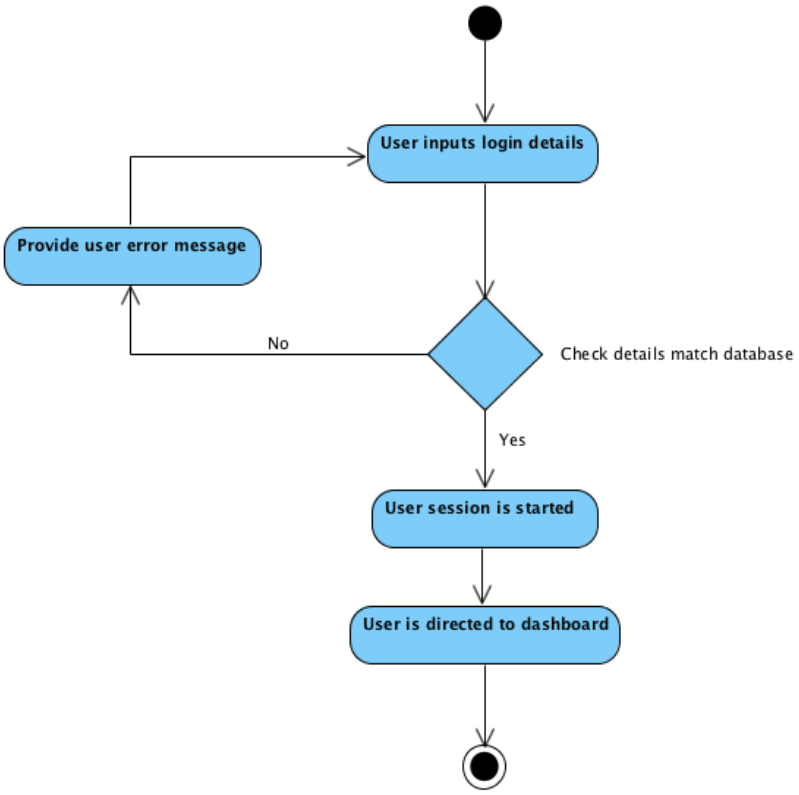
Preconditions: User is logged into the system with a admin account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I'm clicking system users. I have been taken to users page and can see add new user section	None	Easy to find
2	I am now on add new user page and am putting the new users details in to the form	None	Simple
3	Now that I have filled the form I am going to click add new user button. A message has appeared telling me a new user account has been added	None	Message is helpful

Test ID 4.3 – View management tools

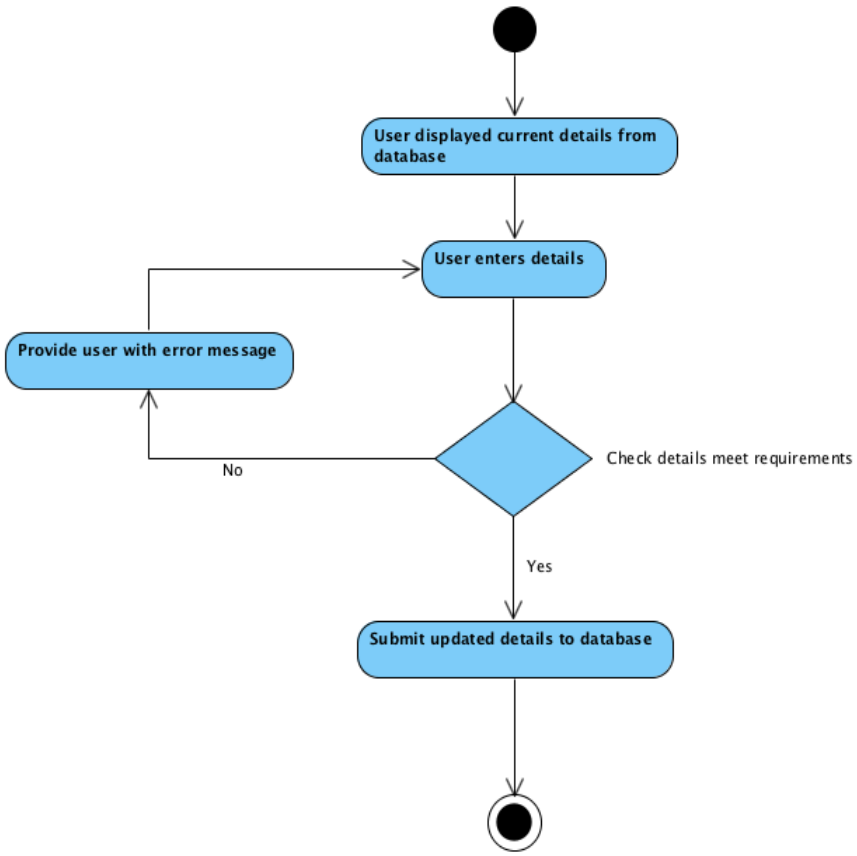
Preconditions: User is logged into the system with a admin account.			
Step	**Think Aloud**	**Problem Areas**	**Good Usability**
1	I'm clicking on management in the side bar. I have now been taken to management page	None	Easy and quick
2	I can now see all data analysis tools	None	Tools look professional and very informative. I especially like the prescription analysis and think it is a good feature

Activity Diagrams

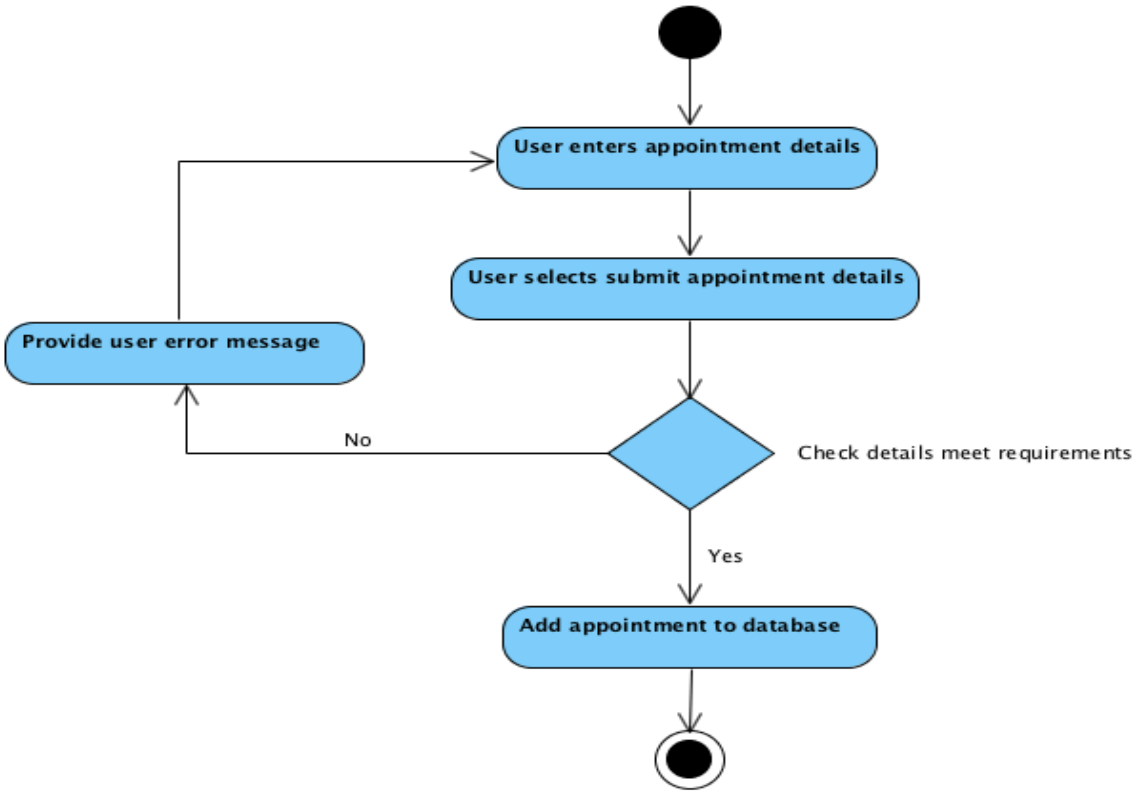
Login



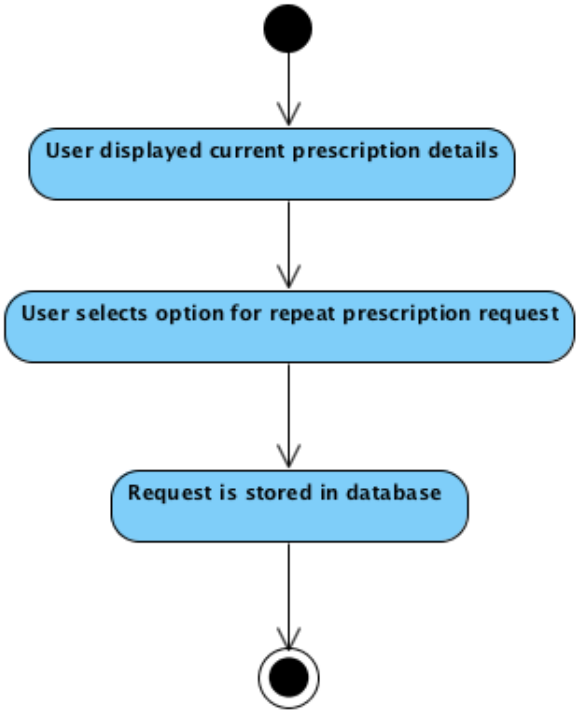
Update user details



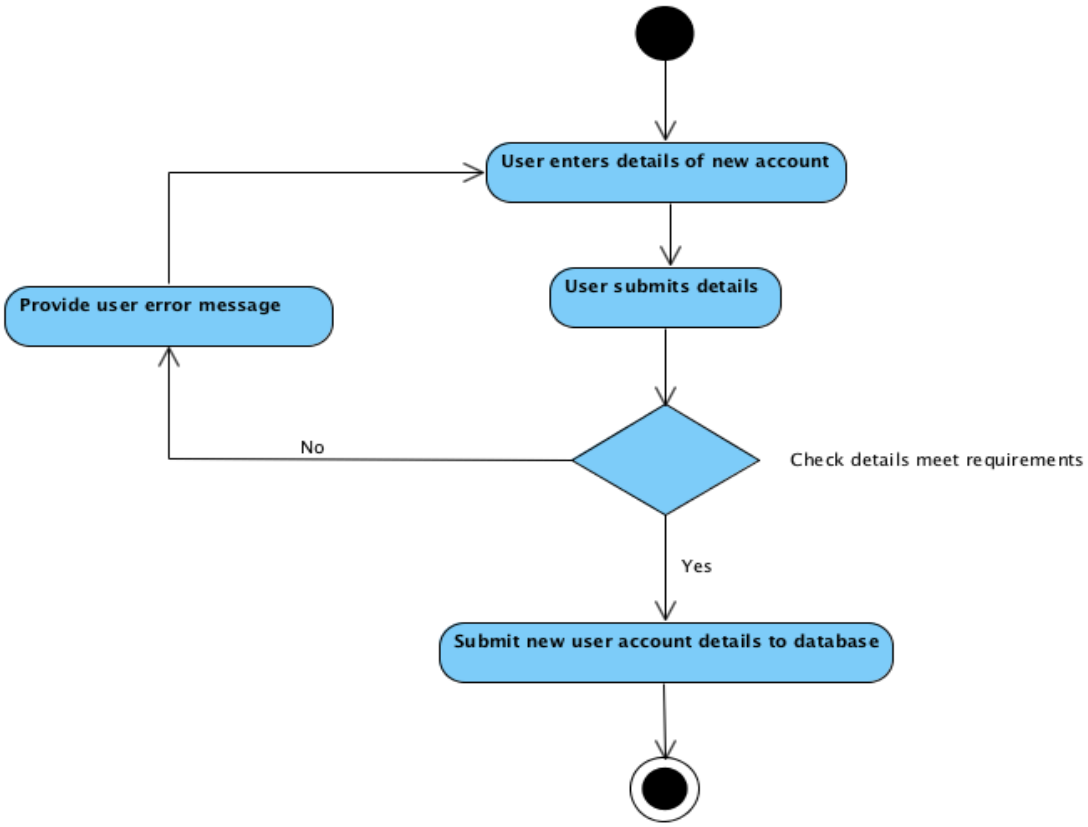
Arrange appointment



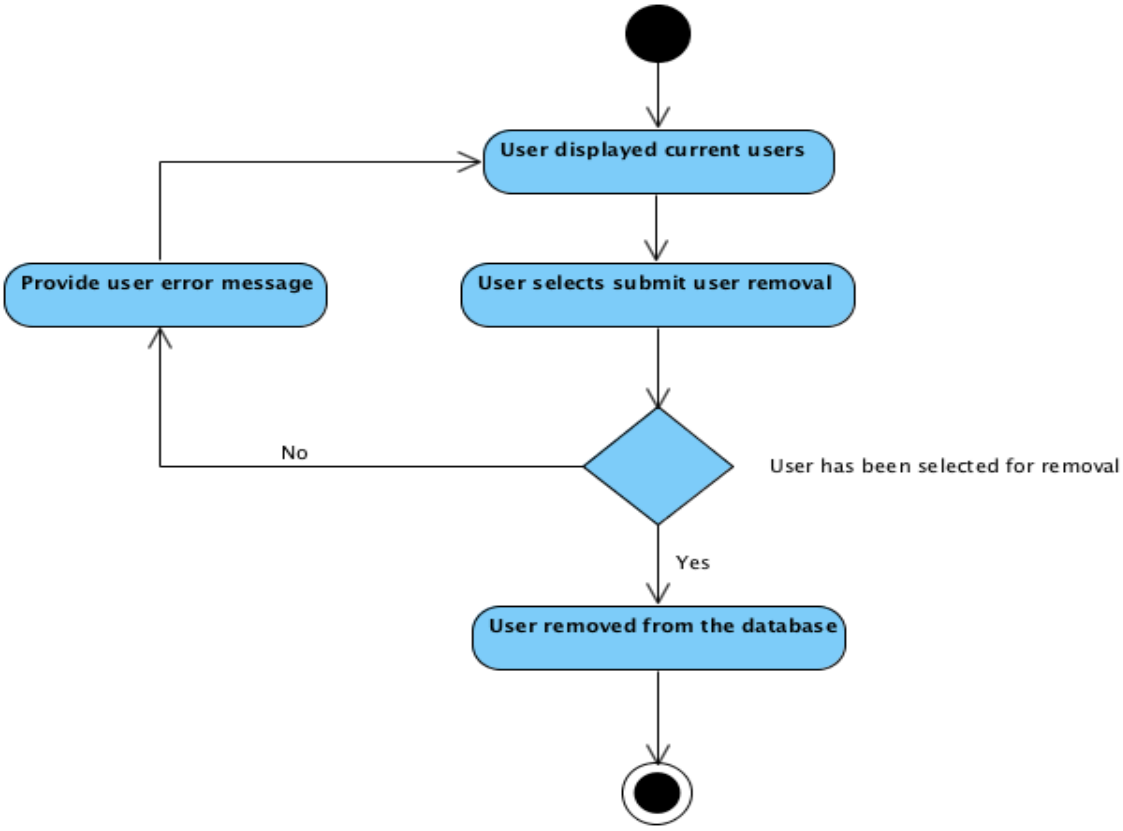
Request repeat prescription



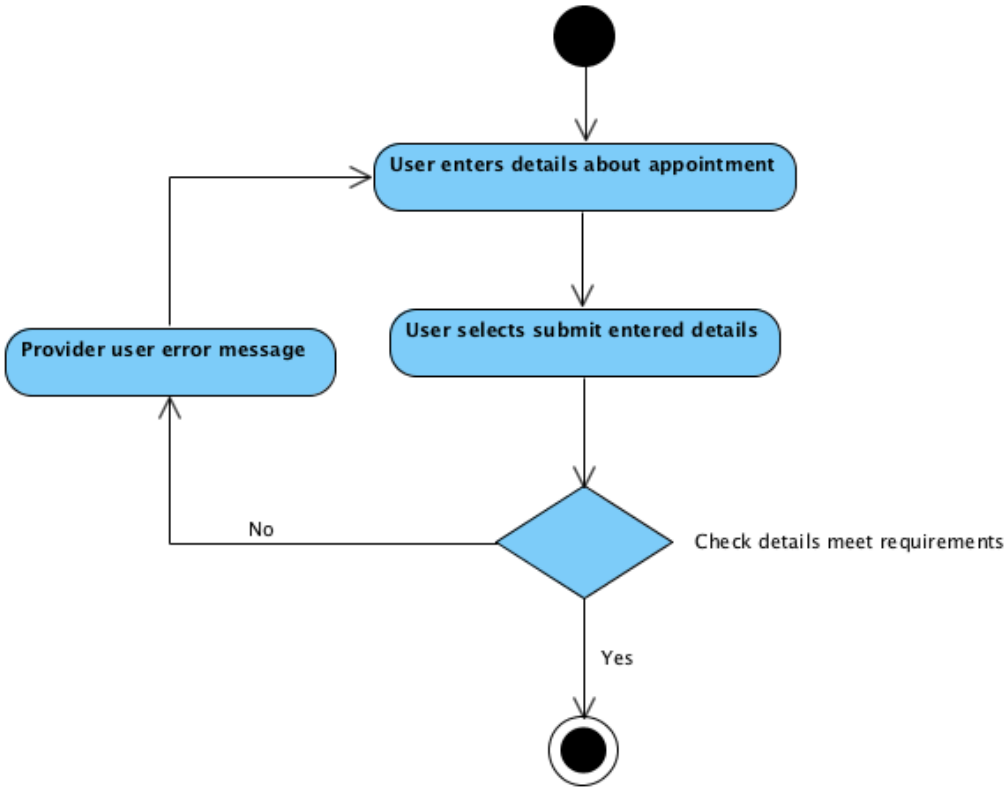
Add new user



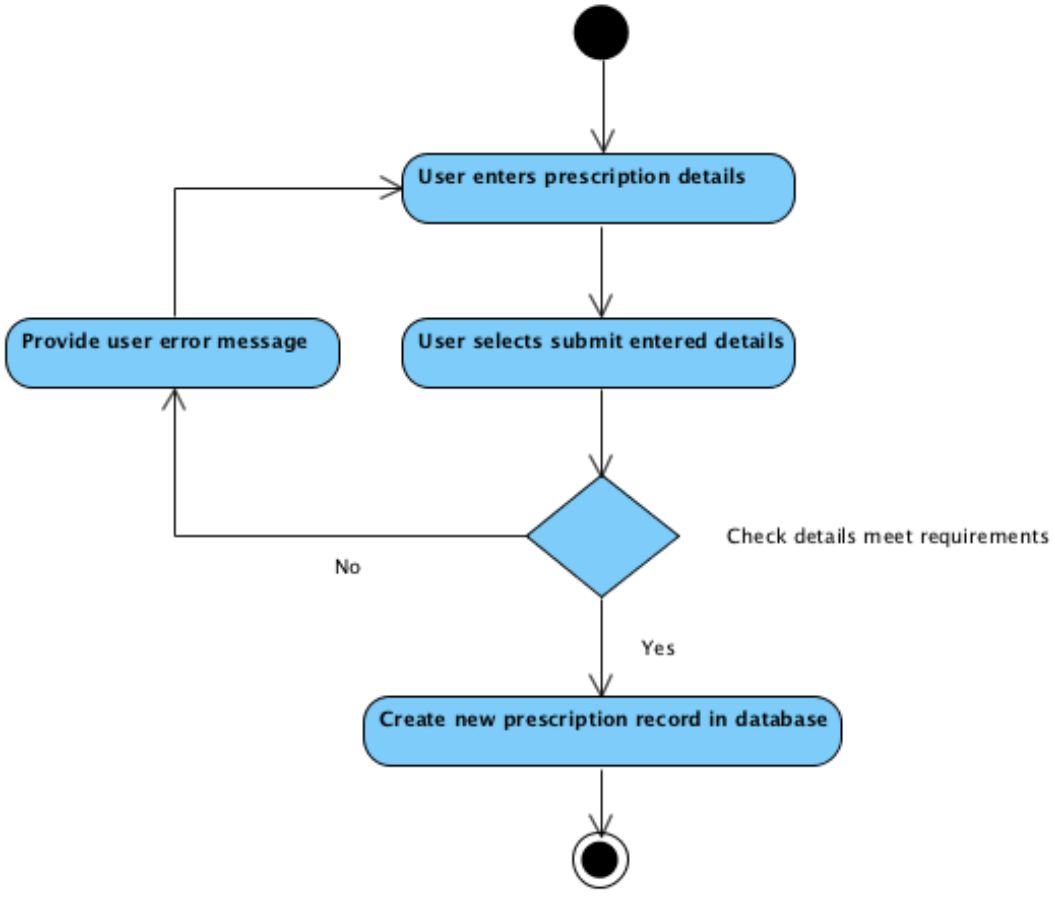
Remove user



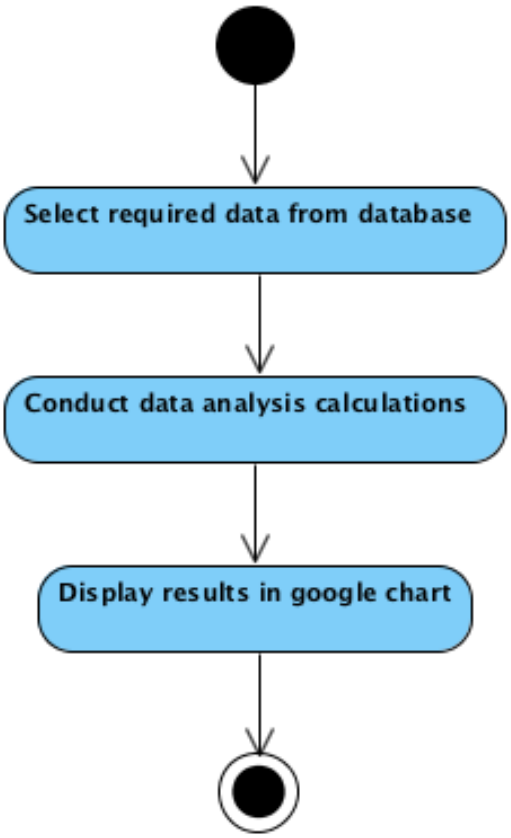
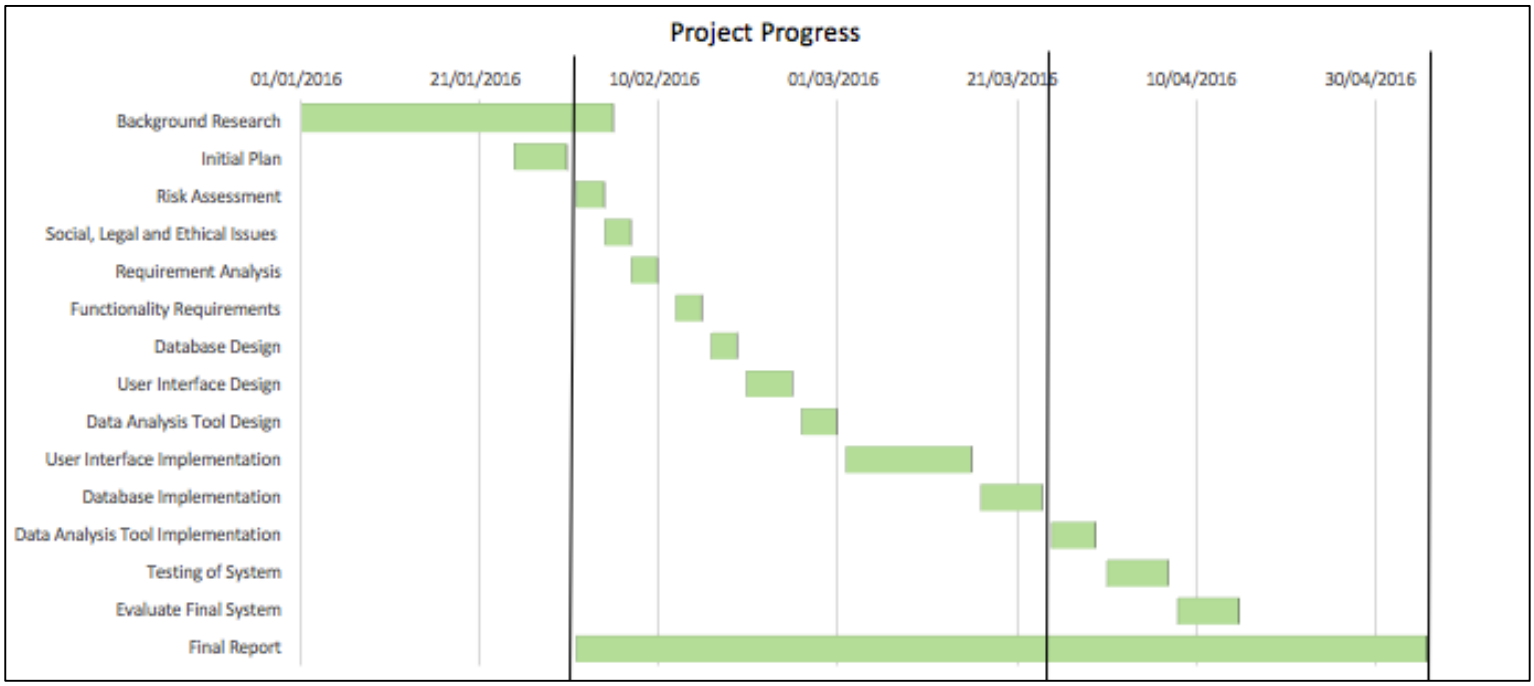
Appointment update



Prescribe medication



Data analysis



Gantt Chart